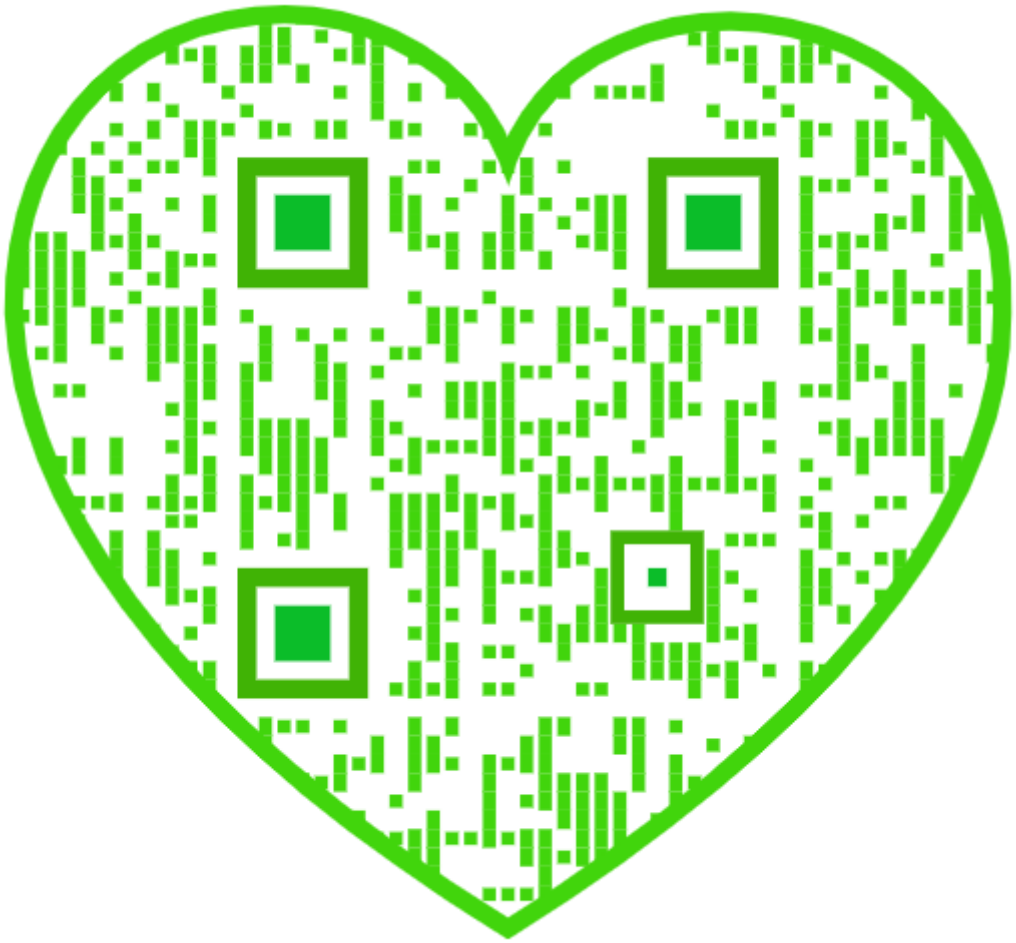


LIBRARY OF CONGRESS.

Chap. SB375

No. .D75
1857

UNITED STATES OF AMERICA.

THE

FRUITS AND FRUIT TREES

OF

AMERICA;

OR,

THE CULTURE, PROPAGATION, AND MANAGEMENT, IN THE GARDEN AND ORCHARD, OF FRUIT TREES GENERALLY;

WITH

DESCRIPTIONS OF ALL THE FINEST VARIETIES OF FRUIT, NATIVE AND FOREIGN, CULTIVATED IN THIS COUNTRY.

BY A. J. DOWNING.

CORRESPONDING MEMBER OF THE ROYAL BOTANIC SOCIETY OF LONDON; AND OF THE HORTICULTURAL SOCIETIES OF BERLIN; THE LOW COUNTRIES; MASSACHUSETTS; PENNSYLVANIA; INDIANA; CINCINNATI, ETC.

What wondrous life is this I lead?
Ripe apples drop about my head;
The luscious clusters of the vine
Upon my mouth do crush their wine;
The nectarine and curious peach
Into my hands themselves do reach.

MARVELL.

REVISED AND CORRECTED BY

CHARLES DOWNING.

NEW YORK:
WILEY & HALSTED,
No. 351 BROADWAY,
1857.

SB355
.D75
1857

Entered according to Act of Congress, in the year 1857, by

JOHN WILEY,

In the Clerk's Office of the District Court of the United States, for the Southern District of New York.

E. ORAIGHEAD, PRINTER AND STEREOTYPER,
Tarion Building.
81, 83, and 85 Centre street, N. Y.

TO

MARSHALL P. WILDER, Esq.,

PRESIDENT OF THE

MASSACHUSETTS HORTICULTURAL SOCIETY,

THIS VOLUME IS DEDICATED,

BY HIS FRIEND,

THE AUTHOR.

PREFACE.

A MAN born on the banks of one of the noblest and most fruitful rivers in America, and whose best days have been spent in gardens and orchards, may perhaps be pardoned for talking about fruit-trees.

Indeed the subject deserves not a few, but many words. "Fine fruit is the flower of commodities." It is the most perfect union of the useful and the beautiful that the earth knows. Trees full of soft foliage; blossoms fresh with spring beauty; and, finally,—fruit, rich, bloom-dusted, melting, and luscious—such are the treasures of the orchard and the garden, temptingly offered to every landholder in this bright and sunny, though temperate climate.

"If a man," says an acute essayist, "should send for me to come a hundred miles to visit him, and should set before me a basket of fine summer fruit, I should think there was some proportion between the labour and the reward."

I must add a counterpart to this. He who owns a rood of proper land in this country, and, in the face of all the pomonal riches of the day, only raises crabs and choke-pears, deserves to lose the respect of all sensible men. The classical antiquarian must pardon one for doubting if, amid all the wonderful beauty of the golden age, there was anything to equal our delicious modern fruits—our honeyed Seckels, and Beurrés, our melting Rareripes. At any rate, the science of modern horticulture has restored almost everything that can be desired to give a paradisiacal richness to our fruit-gardens. Yet there are many in utter ignorance of most of these fruits, who seem to live under some ban of expulsion from all the fair and goodly productions of the garden.

Happily, the number is every day lessening. America is a

young orchard, but when the planting of fruit-trees in one of the newest States numbers nearly a quarter of a million in a single year; when there are more peaches exposed in the markets of New York, annually, than are raised in all France; when American apples, in large quantities, command double prices in European markets; there is little need for entering into any praises of this soil and climate generally, regarding the culture of fruit. In one part or another of the Union every man may, literally, sit under his own vine and fig tree.

It is fortunate for an author, in this practical age, when his subject requires no explanation to show its downright and direct usefulness. When I say I heartily desire that every man should cultivate an orchard, or at least a tree, of good fruit, it is not necessary that I should point out how much both himself and the public will be, in every sense, the gainers. Otherwise I might be obliged to repeat the advice of Dr. Johnson to one of his friends. "If possible," said he, "have a good orchard. I know a clergyman of small income who brought up a family very reputably, which he chiefly fed on apple dumplings." (!)

The first object, then, of this work is to increase the taste for the planting and cultivation of fruit-trees. The second one is to furnish a manual for those who, already more or less informed upon the subject, desire some work of reference to guide them in the operations of culture, and in the selection of varieties.

If it were only necessary for me to present for the acceptance of my readers a choice garland of fruit, comprising the few sorts that I esteem of the most priceless value, the space and time to be occupied would be very brief.

But this would only imperfectly answer the demand that is at present made by our cultivators. The country abounds with collections of all the finest foreign varieties; our own soil has produced many native sorts of the highest merit; and from all these, kinds may be selected which are highly valuable for every part of the country. But opinions differ much as to the merits of some sorts. Those which succeed perfectly in one section, are sometimes ill-adapted to another. And, finally, one needs some accurate description to know when a variety comes into bearing, if its fruit is genuine, or even to identify an indifferent

kind, in order to avoid procuring it again. Hence the number of varieties of fruit that are admitted here. Little by little I have summoned them into my pleasant and quiet court, tested them as far as possible, and endeavoured to pass the most impartial judgment upon them. The verdicts will be found in the following pages.

From this great accumulation of names, Pomology has become an embarrassing study, and those of our readers who are large collectors will best understand the difficulty—nay, the impossibility of making a work like this perfect.

Towards settling this chaos in nomenclature, the exertions of the Horticultural Society of London have been steadily directed for the last twenty years. That greatest of experimental gardens contains, or has contained, nearly all the varieties of fruit, from all parts of the world, possessing the least celebrity. The vast confusion of names, dozens sometimes meaning the same variety, has been by careful comparison reduced to something like real order. The relative merit of the kinds has been proved and published. In short, the horticultural world owes this Society a heavy debt of gratitude for these labours, and to the science and accuracy of Mr. Robert Thompson, the head of its fruit-department, horticulturists here will gladly join me in bearing the fullest testimony.

To give additional value to these results, I have adopted in nearly all cases, for fruits known abroad, the nomenclature of the London Horticultural Society. By this means I hope to render universal on this side of the Atlantic the same standard names, so that the difficulty and confusion which have always more or less surrounded this part of the subject may be hereafter avoided.

These foreign fruits have now been nearly all proved in this country, and remarks on their value in this climate, deduced from actual experience, are here given to the public. To our native and local fruits especial care has also been devoted. Not only have most of the noted sorts been proved in the gardens here, but I have had specimens before me for comparison, the growth of no less than fourteen of the different States. There are still many sorts, nominally fine, which remain to be collected, compared, and proved; some of which will undoubtedly de-

serve a place in future editions. To the kindness of pomologists in various sections of the country I must trust for the detection of errors in the present volume, and for information of really valuable new varieties.*

Of the *descriptions* of fruit, some explanation may be necessary. First, is given the *standard* name in capitals, followed by the authorities—that is, the names of authors who have previously given an account of it by this title. Below this are placed, in smaller type, the various *synonymes*, or local names, by which the same fruit is known in various countries or parts of the country. Thus, on page 429, is the following :

FLEMISH BEAUTY. Lind. Thomp.

Belle de Flandres.	Poire Davy.
Bosch Nouvelle.	Impératrice de France.
Bosch.	Fondant Du Bois.
Bosc Sire.	Boschpeer.

Beurre Spence (*erroneously*).

By this is signified, first, that FLEMISH BEAUTY is the *standard* name of the pear; secondly, that it has been previously described by Lindley and Thompson; thirdly, that the others—*synonymes*—are various local names by which the Flemish Beauty is also known in various places; and, lastly, that by the latter name—Beurre Spence—it is *incorrectly* known in some collections, this name belonging to another distinct pear.

It is at once apparent that one of the chief points of value of a book like this, lies in the accuracy with which these synonymous names are given—since a person might, in looking over different catalogues issued here and abroad, suppose that all ten of the above are different varieties—when they are really all different names for a single pear. In this record of synonymes, I have therefore availed myself of the valuable experience of the Lon-

* It is well to remark that many of the so-called new varieties, especially from the West, prove to be old and well-known kinds, slightly altered in appearance by new soil and different climate. A new variety must possess very superior qualities to entitle it to regard, now that we have so many fine fruits in our collections.

don Horticultural Society, and added all the additional information in my own possession.

Many of the more important varieties of fruit are shown in *outline*. I have chosen this method as likely to give the most correct idea of the form of a fruit, and because I believe that the mere outline of a fruit, like a profile of the human face, will often be found more characteristic than a highly finished portrait in colour. The outlines have been nearly all traced directly from fruits grown here. *They are from specimens mostly below the average size.* It has been the custom to choose the largest and finest fruits for illustration—a practice very likely to mislead. I believe the general character is better expressed by specimens of medium size, or rather below it.

It only remains for me to present my acknowledgments to the numerous gentlemen, in various parts of the country, who have kindly furnished information necessary to the completion of the work. The names of many are given in the body of the volume. But to the following I must especially tender my thanks, for notes of their experience, or for specimens of fruits to solve existing doubts.

In Massachusetts, to Messrs. M. P. Wilder, S. G. Perkins, J. P. Cushing, B. V. French, S. Downer, and C. M. Hovey, of Boston; John C. Lee, J. M. Ives, the late Robert Manning and his son R. Manning, of Salem; and Otis Johnson, of Lynn.

In Connecticut, to Dr. E. W. Bull, of Hartford; Mr. S. Lyman, of Manchester; and the Rev. H. S. Ramsdell, of Thompson.

In New York, to Messrs. David Thomas, of Aurora; J. J. Thomas, of Macedon; Luther Tucker, and Isaac Denniston, of Albany; Alexander Walsh, of Lansingburgh; T. H. Hyatt, of Rochester: R. L. Pell, of Pelham; C. Downing, of Newburgh; and Wm. H. Aspinwall, of Staten Island.

In Ohio, to Professor Kirtland, of Cleveland; Dr. Hildreth, of Marietta; and Messrs. N. Longworth, C. W. Elliott, and A. H. Ernst, of Cincinnati.

In Indiana, to the Rev. H. W. Beecher, of Indianapolis. In New Jersey, to Messrs. Thomas Hancock, of Burlington, and J. W. Hayes, of Newark. In Pennsylvania, to Mr. Frederick

Brown, and Col. Carr, of Philadelphia. In Maryland, to Lloyd N. Rogers, Esq., of Baltimore. In Georgia, to James Camak, Esq., of Athens.

A. J. D.

HIGHLAND GARDENS,
Newburgh, N. Y., May, 1845.

PREFACE TO THE REVISED EDITION.

In preparing this revised and corrected edition of the "Fruits and Fruit Trees of America," no alteration has been made in the general principles of cultivation and propagation, and but little in the descriptions of those varieties that are retained; but some, after repeated trial, having proved unworthy of general cultivation, have been reduced and put in a class of inferior sorts; some of which, however, have advocates, and succeed in particular soils and localities.

Many new ones of "very good" and "best" quality have been added; some well proved, and others partially so, requiring more time to give their true merits; some giving promise of excellence, others may prove, when fully tested, but of inferior value.

Something has been done towards ascertaining synonymes and identifying disputed varieties, and great numbers of specimens compared from various sources; but it requires much time and long-continued examinations to accomplish even a little by private individuals, where there is so much confusion as now exists. Order and accuracy can only be arrived at when the different varieties are well grown in the same soil and locality, which could only be realized in an experimental garden on a large scale.

To the many persons in various parts of the country who have kindly furnished notes and specimens of numerous fruits, we tender our acknowledgments.

In Massachusetts, to John Milton Earl, Samuel Colton, George A. Chamberlain, and George Jacques, Worcester; J. C. Stone, Shrewsbury; F. Burr, Hingham; Asa Clement, Lowell; Willis P. Sargent, West Amesbury; O. V. Hills,

Leominster; Dr. L. W. Puffer, North Bridgewater; Joel Knapp, Sutton; and Joseph Merrill, Danversport.

In Connecticut, to S. D. Pardee and Prof. Eli Ives, New Haven; Sheldon Moore, Kensington; George Seymour, Norwalk; G. W. Gager, Sharon, and P. S. Beers, Southville.

In Vermont, to Chauncey Goodrich and Rev. John Wheeler, Burlington; J. M. Ketchum, Brandon; G. W. Harman, Bennington; Buel Landon, Grand Isle, and Albert Bresee, Hubbardton.

In New York, to Dr. James Fountain, Jefferson Valley; S. P. Carpenter, New Rochelle; William R. Prince, Flushing; Dr. C. W. Grant, A. Saul, Newburgh; J. G. Sickles, Stuyvesant; Elisha Dorr and Prof. James Hall, Albany; J. W. Bailey, Plattsburgh; J. Battey, Keeseville; J. C. Hastings, Clinton; Matthew Mackie, Clyde; Isaac Hildreth, Watkins; T. C. Maxwell and Brothers, and W. T. & E. Smith, Geneva; Ellwanger & Barry, H. E. Hooker, A. Frost & Co., and James H. Watts, Rochester; J. B. Eaton, Buffalo.

In New Jersey, to Louis E. Berckmans, Plainfield; William Reid, Elizabethtown; James McLean, Roadstown.

In Pennsylvania, to Dr. W. D. Brinckle, Philadelphia; Chas. Kessler and Daniel B. Lorah, Reading; Dr. J. K. Eshleman and Jonathan Baldwin, Downingtown; Thomas Harvey, Jennerville; Wm. G. Waring, Boalsburg; Samuel Miller, Lebanon; Samuel Miller, Jun., Cumberland; D. H. Wakefield, Brownsville; Josiah Hoopes, Westchester.

In Ohio, to Robert Buchanan, Cincinnati; D. C. Richmond, Sandusky; A. Thompson, Delaware; M. B. Batcham, Columbus, and N. L. Wood, Smithfield.

In Illinois, to Dr. J. A. Kennicott, West Northfield; F. K. Phœnix and C. R. Overman, Bloomington; Arthur Bryant, Princeton.

In Indiana, to Reuben Regan, Nicholsonville; John C. Teas, Raysville; Wm. H. Loomis, Fort Wayne.

In Maine, to S. L. Goodall, Saco. In New Hampshire, to Robert Wilson, Keene; and Nathan Norton, Greenland. In Canada West, to James Dougall, Windsor; and William H. Read, Port Dalhousie. In Michigan, to T. T. Lyon, Plymouth; Dr. D. K. Underwood, Adrian. In Iowa, to Henry Avery,

Burlington. In Delaware, to Edward Tutnall, Wilmington. In Virginia, to H. R. Roby, Fredericksburgh. In North Carolina, to G. W. Johnson, Milton. In Kentucky, to J. S. Downer, Elkton; and S. J. Leavell, Trenton. In Missouri, to George Hussman, Herrman. In Washington, to John Saul.

In Georgia, to William N. White and Dr. M. A. Ward, Athens; Richard C. Peters and Wm. H. Thurmond, Atlanta, and J. Van Beuren, Clarksville.

CHARLES DOWNING.

ABBREVIATIONS AND BOOKS QUOTED.

Arboretum Britannicum, or the Trees and Shrubs of Britain, pictorially and botanically delineated, and scientifically and popularly described by J. C. Loudon. London, 1845, 8 vols. 8vo.

Annales de la Société d'Horticulture de Paris.—Paris. In monthly Nos. 8vo. 1827 to 1845.

Annales de l'Institut de Fromont. Par le Chevalier Soulange Bodin. Paris, 8vo. 1829 to 1834, 6 vols.

Adlum. A Memoir on the cultivation of the Vine in America, and the best mode of making Wine. By John Adlum. 12mo. Washington, 1828.

Bon Jard. Le Bon Jardinier, pour l'Année 1844. Contenant des principes generaux de culture, etc. Par A. Poiteau and M. Vilmorin, Paris. 12mo.—yearly volume.

Busby. A Visit to the principal Vineyards of France and Spain. By Jas. Busby. New York, 12mo. 1835.

Bridgeman. The Young Gardener's Assistant. By Thomas Bridgeman. Tenth ed. New York, 1844, 8vo.

Baumann's Cat. Catalogue des Vegetaux en tout genre disponible dans l'Etablissement des Frères Baumann, à Bolwiller, 1842.

Coxe. A View of the Cultivation of Fruit Trees in the United States, and of the Management of Orchards and Cider. By William Coxe. Philadelphia, 8vo., 1817.

Chaptal. Chemistry applied to Agriculture. By John Anthony Chaptal. American ed., 12mo. Boston, 1835.

Cobbett. The American Gardener. By Wm. Cobbett. London, 1821. 12mo.

Coleman. Reports on the Agriculture of Massachusetts. By Henry Coleman. Boston, 8vo. 1840-41.

Dom. Gard. The Domestic Gardener's Manual. By John Towers. London, 1839, 8vo.

Dohamel. Traité des Arbres Fruitiers, par M. Duhamel Dumonceau. Paris, 1768, 2 vols. 4to.

Cultivator. The Cultivator, a monthly journal of Agriculture, &c., Edited by Luther Tucker. Albany, continued to the present time, 8vo.

Diel. Versuch einer Systematischen Beschreibung in Deutschland vorhandener Kernobstsorten. Von Dr. Aug. Freidr. Ad. Diel. 12mo. 24 vols. 1799—1825.

De Candolle. Physiologie Végétale, ou Exposition des Forces et des Fonctions vitales des Végétaux. Par A. P. De Candolle. Paris, 1832, 3 vols. 8vo.

———. Prodromus Systematis Naturalis Vegetabilis. Paris, 1818—1830, 4 vols. 8vo.

D'Albret. Cours Théorique et Pratique de la Taille des Arbres Fruitiers. Par D'Albret. Paris, 1840 8vo.

Forsyth. A Treatise on the Culture and Management of Fruit-trees. By William Forsyth, 7th ed. London, 1824, 8vo.

Floy. Lindley's Guide to the Orchard. American ed. with additions by Michael Floy. New York, 1833, 12mo.

Fessenden. New American Gardener, containing practical directions for the culture of Fruits and Vegetables. By Thos. E. Fessenden. Boston, 1828, 12mo.

Gard. Mag. The Gardener's Magazine, conducted by J. C. Loudon, in monthly nos. 8vo., 19 vols. to 1844, London.

Gard. Chron. The Gardener's Chronicle, and Agricultural Gazette, edited by Professor Lindley, a weekly journal, 4to. 5 vols. 1844 to the present time.

Hoare. A Practical Treatise on the cultivation of the Grape Vine on open walls. By Clement Hoare. London, 1840, 12mo.

Hort. Soc. Cat. See *Thompson.*

Hort. Trans. Transactions of the Horticultural Society of London. London, 4to. 1815, and at intervals to the present time.

Hooker. Pomona Londonensis. By William Hooker. London, 1813, 4to.

Hayward. The Science of Horticulture. By Joseph Hayward. London, 1824, 8vo.

Harris. A Report on the Insects of Massachusetts injurious to Vegetation. By Dr. T. W. Harris. Cambridge, 1841, 8vo.

Hov. Mag. or H. M. The Magazine of Horticulture, Botany and Rural Affairs. Conducted by C. M. Hovey. Boston, 8vo. monthly nos. 1834 to the present time.

Johnston. Lectures on Agricultural Chemistry and Geology. By Jas. W. F. Johnston. American ed. New York, 12mo. 2 vols. 1842.

Jard. Fruit. Le Jardin Fruitier, par Louis Noisette, 2 ed. Paris, 1839, 2 vols. 8vo.

Knight. Various articles in the London Horticultural Transactions. By Thomas Andrew Knight, its late President.

Knoop. Pomologie, ou description des Arbres Fruitiers. Par Joh. Herm. Knoop. Amsterdam, 1771, Fol.

Ken. The New American Orchardist. By William Kenrick, Boston, 1844.

Kollar. A Treatise on Insects injurious to Gardeners, Foresters and Farmers. By Vincent Kollar, Notes by Westwood. London, 1840, 12mo.

Langley. Pomona, or the Fruit Garden Illustrated. By Batty Langley, London, 1729, Folio.

Loudon. An Encyclopedia of Gardening. By J. C. Loudon. London, 1835, 1 thick vol. 8vo.

———. An Encyclopedia of Plants. By the same. London, 1836, 1 thick vol. 8vo.

———. An Encyclopedia of Agriculture. By the same. London, 1831, 1 thick vol. 8vo.

——— Hortus Britannicus. A Catalogue of all the plants in Britain, by the same. London, 8vo.

———. The Suburban Horticulturist, by the same. London, 1842, 8vo.

———. The Suburban Gardener and Villa Companion. By the same. London, 1838, 1842, 8vo.

———. Arboretum et Fruticetum Britannicum. By the same. 8 vols. London, 1838, 8vo

Liebig. Organic Chemistry in its applications to Agriculture and Physiology. By Justus Liebig. American ed., Cambridge, 1844, 12mo.

Lind. A Guide to the Orchard and Kitchen Garden, or an account of the Fruits and Vegetables cultivated in Great Britain. By George Lindley. London, 1831, 8vo.

Lindley. An Introduction to Botany. By John Lindley. London, 1832, 8vo.

———. An Introduction to the Natural System of Botany. By John Lindley. London, 1835, 2d ed., 8vo.

———. British Fruits. See Pomological Magazine—it is the same work.

———. The Theory of Horticulture, or an attempt to explain the Operation of Gardening upon Physiological Principles. By John Lindley. London, 8vo., 1840.

———. The same work with Notes by A. Gray and A. J. Downing. New York, 1841, 12mo.

L. or *Linnæus.* Species Plantarum, 5th ed. Berlin, 1810, 5 vols. 8vo.

Lelieur. La Pomone Française, ou Traité de la Culture Française, et de la Taille des Arbres Fruitiers. Par le Compte Lelieur. Paris, 1811, 8vo.

Man. The New England Fruit Book. By R. Manning, 2d ed., enlarged by John M. Ives, Salem, 1844, 12mo.

Man. in H. M. Manning's articles in Hovey's Magazine.

Mill. The Gardener's and Botanist's Dictionary. By Philip Miller. Revised by Professor Martyn. London, 1819, 2 vols. 8vo.

Michaux. The North American Sylva, or Descriptions of the Forest Trees of the United States, Canada, &c. By A. F. Michaux. Paris, 1819, 3 vols. 8vo.

M'Intosh. The Orchard and Fruit Garden. By Charles McIntosh. London, 1819, 12mo.

N. Duh. (The New Duhamel) Traité des Arbres Fruitiers de Duhamel. Nouvelle edition augmentée, etc. Par MM. Poiteau et Turpin, Paris. 5 vols. folio, 1808, et seq.

Nois. See Jardin Fruitier.

New England Farmer. A weekly periodical, devoted to Agriculture, Horticulture, &c. Boston, 4to., continued to the present time.

O. Duh. See Duhamel.

Pom. Mag. or *P. M.* The Pomological Magazine, or Figures and Descriptions of the most important varieties of Fruit cultivated in Great Britain. London, 1828, 3 vols. 8vo.

Pom. Man. The Pomological Manual. By William R. Prince. New York, 1831, 2 vols. 8vo.

Prince. A Treatise on the Vine. By William R. Prince. New York, 1830, 8vo.

Prince. A short Treatise on Horticulture. By William Prince. New York, 1828, 12mo.

Phillips. Pomarium Britannicum; an Historical and Botanical Account of the Fruits known in Great Britain. By Henry Phillips. London, 1820, 8vo.

Poit. or *Poiteau.* Pomologie Française. Recueil des plus beaux Fruits, cultivés en France. Par Poiteau. Paris, 1838, and continued in 4to. numbers.

Rivers. A Descriptive Catalogue of Pears, cultivated by T. Rivers. Sawbridgeworth, 1843–44, pamphlet, 8vo.

Ron. or *Ronalds.* Pyrus Malus Brentfordienses, or a concise description of Selected Apples, with a figure of each sort. By Hugh Ronalds. London, 1831, 4to.

Ray. Historia Plantarum, a John Ray, M.D. London, 3 vols. folio, 1636—1704.

Revue Horticole. Journal des Jardiniers et Amateurs. Audot, Editeur. Paris, 1844, et chaque mois, 12mo.

Switzer. The Practical Fruit Gardener. By Stephen Switzer, 1724, 8vo.

Torrey & Gray. A Flora of North America, containing abridged descriptions of all the known plants growing north of the Gulf of Mexico. By John Torrey, M.D., and Asa Gray, M.D. New York, vol. 1st, 8vo. New York, 1840, and still in progress.

Thomp. A Catalogue of the Fruits Cultivated in the Garden of the Horticultural Society of London, 3d ed., London, 1842. [Prepared with great care by Robert Thompson, the head of the Fruit Department.]

Thacher. The American Orchardist. By James Thacher, M.D. Boston, 1822, 8vo.

Van Mons. Arbres Fruitiers, ou Pomologie Belge Experimentale et Raisonnée. Par J. R. Van Mons. Louvain, 1835—1836, 2 vols. 12mo.

———. Catalogue des Arbres Fruitiers, Descriptif, Abrégé. Par J. B. Van Mons. Louvain, 1823.

Wilder, MSS. Manuscript Notes on Fruits. By M. P. Wilder, Esq., President of the Massachusetts Horticultural Society.

ADDITIONAL AUTHORITIES.

Al. Pom. Album de Pomologie; in which the fruits of Belgium are figured and described.

An. Pom. Annals of Pomology, a periodical published by royal commission, in which choice fruits are figured and described.

C. H. A. Comice of Horticulture of Angers.

Hort. The Horticulturist of Rural Art and Rural Taste, 11 vols.

Cole. American Fruit Book, by S. W. Cole, Boston, Mass.

Thomas. American Fruit Culturist, by John J. Thomas, Union Springs, New York.

Barry. The Fruit Garden, by P. Barry, Rochester, New York.

Waring. The Fruit Grower's Hand-Book, by Wm. G. Waring, Boalsburg, Pa.

Elliott. American Fruit Grower's Guide, by F. R. Elliott, Cleveland, O.

White's Gard. Gardening for the South, by Wm. N. White, Athens, Ga.

Hov. Mag. The Magazine of Horticulture, by C. M. Hovey, Boston, Mass. 22 vols.

N. Y. Hort. Rev. New York Horticultural Review, by C. Reagles, New York.

Ad Int. Rep. Ad Interim Reports of the Pennsylvania Horticultural Society.

Inter. Rep. Intermediate native fruit reports of the American Pomological Society.

Ga. Pom. S. Rep. Ad Interim Reports of the Georgia Pomological Society.

Me. Pom. S. Rep. Annual Report of the Maine Pomological Society.

Trans. A. Pom. S. Transactions of the American Pomological Society.

Biv. Cat. Catalogue of A. Bivort, Belgium.

Pap. Cat. Catalogue of Ad. Papelen, Belgium.

Leroy's Cat. Descriptive Catalogue by Andre Leroy, Angers, France.

Pr. Cat. Descriptive Catalogue of Fruits, by Wm. R. Prince, Flushing, New York.

L. E. Berckman's MS. Manuscript Notes, by Louis E. Berckman, Plainfield, New Jersey.

W. D. Brinckle's MS. Manuscript Notes, by W. D. Brinckle, Philadelphia.
R. Manning's MS. Manuscript Notes, by Robert Manning, Salem, Mass.
A. H. Ernst MS. Manuscript Notes, by A. H. Ernst, Cincinnati, Ohio.
R. Buchanan MS. Manuscript Notes, by Robert Buchanan, Cincinnati, Ohio.
Wm. N. White MS. Manuscript Notes, by Wm. N. White, Athens, Ga.
J. Van Beuren's MS. Manuscript Notes, by J. Van Beuren, Clarksville, Georgia.
H. R. Robey MS. Manuscript Notes, by H. R. Robey, Fredericksburg, Virginia.
Samuel Miller, Jr., MS. Manuscript Notes, by Samuel Miller, Jr., Cumberland, Pa.
J. S. Downer MS. Manuscript Notes, by J. S. Downer, Elkton, Ky.

FRUITS AND FRUIT TREES.

CHAPTER I.

THE PRODUCTION OF NEW VARIETIES OF FRUIT.

In our survey of the culture of fruits let us begin at the beginning. Gradual amelioration, and the skilful practice of the cultivator, have so filled our orchards and gardens with good fruits, that it is necessary now to cast a look back at the types from which these delicious products have sprung.

In the tropical zone, amid the surprising luxuriance of vegetation of that great natural hothouse, nature offers to man, almost without care, the most refreshing, the most delicious, and the most nutritive fruits. The Plantain and Banana, excellent either raw or cooked, bearing all the year, and producing upon a rood of ground the sustenance of a family; the refreshing Guava and Sapodilla; the nutritious Bread-fruit; such are the natural fruit trees of those glowing climates. Indolently seated under their shade, and finding a refreshing coolness both from their ever-verdant canopy of leaves, and their juicy fruits, it is not here that we must look for the patient and skilful cultivator.

But, in the temperate climates, nature wears a harsher and sterner aspect. Plains bounded by rocky hills, visited not only by genial warmth and sunshine, but by cold winds and seasons of ice and snow; these are accompanied by sturdy forests, whose outskirts are sprinkled with crabs and wild cherries, and festooned with the clambering branches of the wild grape. These native fruits, which at first offer so little to the eye, or the palate, are nevertheless the types of our garden varieties. Destined in these climates to a perpetual struggle with nature, it is here that we find man ameliorating and transforming her.

Transplanted into a warmer aspect, stimulated by a richer soil, reared from selected seeds, carefully pruned, sheltered and watched, by slow degrees the sour and bitter crab expands into a Golden Pippin, the wild pear loses its thorns and becomes a Bergamotte or a Beurré, the Almond is deprived of its bitterness, and the dry and flavorless Peach is at length a tempting and delicious fruit. It is thus only in the face of obstacles, in a climate where nature is not prodigal of perfections, and in the

midst of thorns and sloes, that MAN THE GARDENER arises and forces nature to yield to his art.

These improved sorts of fruit which man every where causes to share his civilization, bear, almost equally with himself, the impress of an existence removed from the natural state. When reared from seeds they always show a tendency to return to a wilder form, and it seems only *chance* when a new seedling is equal to, or surpasses its parent. Removed from their natural form, these artificially created sorts are also much more liable to diseases and to decay. From these facts arises the fruit-garden, with its various processes of grafting, budding and other means of continuing the sort; with also its sheltered aspects, warm borders, deeper soils, and all its various refinements of art and culture.

In the whole range of cares and pleasures belonging to the garden, there is nothing more truly interesting than the production of new varieties of fruit. It is not, indeed, by sowing the seeds that the lover of good fruit usually undertakes to stock his garden and orchard with fine fruit trees. Raising new varieties is always a slow, and, as generally understood, a most uncertain mode of bringing about this result. The novice plants and carefully watches his hundred seedling pippins, to find at last, perhaps, ninety-nine worthless or indifferent apples. It appears to him a lottery, in which there are too many blanks to the prizes. He, therefore, wisely resorts to the more certain mode of grafting from well known and esteemed sorts.

Notwithstanding this, every year, under the influences of garden culture, and often without our design, we find our fruit trees reproducing themselves; and occasionally, there springs up a new and delicious sort, whose merits tempt us to fresh trials after perfection.

To a man who is curious in fruit, the pomologist who views with a more than common eye, the crimson cheek of a peach, the delicate bloom of a plum, or understands the epithets, rich, melting, buttery, as applied to a pear, nothing in the circle of culture can give more lively and unmixed pleasure, than thus to produce and to create—for it is a sort of creation—an entirely new sort, which he believes will prove handsomer and better than any thing that has gone before. And still more, as varieties which originate in a certain soil and climate, are found best adapted to that locality, the production of new sorts of fruit, of high merit, may be looked on as a most valuable, as well as interesting result.

Besides this, all the fine new fruits, which, of late, figure so conspicuously in the catalogues of the nurseries and fruit gardens, have not been originated at random and by chance efforts. Some of the most distinguished pomologists have devoted years to the subject of the improvement of fruit trees by seeds, and have attained if not certain results, at least some general

laws, which greatly assist us in this process of amelioration. Let us therefore examine the subject a little more in detail.

In the wild state, every genus of trees consists of one or more *species*, or strongly marked individual sorts; as, for example, the white birch and the black birch; or, to confine ourselves more strictly to the matter in hand, the different species of cherry, the wild or bird cherry, the sour cherry, the mazzard cherry, &c. These *species*, *in their natural state*, exactly reproduce themselves; to use a common phrase, they "come the same" from seed. This they have done for centuries, and doubtless will do forever, so long as they exist under natural circumstances only.

On the other hand, suppose we select one of these *species* of fruit-trees, and adopt it into our gardens. So long as we cultivate that individual tree, or any part of it, in the shape of sucker, graft, or bud, its nature will not be materially altered. It may, indeed, through cultivation, be stimulated into a more luxuriant growth; it will probably produce larger leaves and fruit; but we shall neither alter its fruit in texture, color or taste. It will always be identically the same.

The process of amelioration begins with a new generation, and by sowing the seeds. Some species of tree, indeed, seem to refuse to yield their wild nature, never producing any variation by seed; but all fruit-trees and many others, are easily *domesticated*, and more readily take the impress of culture.

If we sow a quantity of seed in garden soil of the common black mazzard cherry, (*Cerasus avium*,) we shall find that, in the leaves and habit of growth, many of the seedlings do not entirely resemble the original species. When they come into bearing, it is probable we shall also find as great a diversity in the size, color and flavor of the fruit. Each of these individual plants, differing from the original type, (the mazzard,) constitutes a new *variety;* though only a few, perhaps only one, may be superior to the original species.

It is worthy of remark, that exactly in proportion as this reproduction is frequently repeated, is the change to a great variety of forms, or new sorts increased. It is likely indeed, that to gather the seeds from a wild mazzard in the woods, the instances of departure from the form of the original species would be very few; while if gathered from a garden tree, itself some time cultivated, or several removes from a wild state, though still a mazzard, the seedlings will show great variety of character.

Once in the possession of a *variety*, which has *moved out* of the natural into a more domesticated form, we have in our hands the best material for the improving process. The fixed original habit of the species is broken in upon, and this variety which we have created, has always afterwards some tendency to

make further departures from the original form. It is true that all or most of its seedlings will still retain a likeness to the parent, but a few will differ in some respects, and it is by seizing upon those which show symptoms of variation, that the improver of vegetable races founds his hopes.

We have said that it is a part of the character of a species to produce the same from seed. This characteristic is retained even where the *sport*, (as gardeners term it) into numberless varieties is greatest. Thus, to return to cherries, the Kentish or common pie-cherry is one species, and the small black mazzard another, and although a great number of varieties of each of these species have been produced, yet there is always the likeness of the species retained. From the first we may have the large and rich Mayduke, and from the last the sweet and luscious Black-Hearts; but a glance will show us that the duke cherries retain the distinct dark foliage, and, in the fruit, something of the same flavor, shape and color of the original species; and the heart cherries the broad leaves and lofty growth of the mazzard. So too, the currant and gooseberry are different species of the same genus; but though the English gooseberry growers have raised thousands of new varieties of this fruit, and shown them as large as hen's eggs, and of every variety of form and color, yet their efforts with the gooseberry have not produced any thing resembling the common currant.

Why do not varieties produce the same from seed? Why if we plant the stone of a Green Gage plum, will it not always produce a Green Gage? This is often a puzzling question to the practical gardener, while his every day experience forces him to assent to the fact.

We are not sure that the vegetable physiologists will undertake to answer this query fully. But in the mean time we can throw some light on the subject.

It will be remembered that our garden varieties of fruits are not natural forms. They are the artificial productions of our culture. They have always a *tendency to improve*, but they have also another and a stronger *tendency to return to a natural, or wild state.* "There can be no doubt," says Dr. Lindley, "that if the arts of cultivation were abandoned for only a few years, all the annual varieties of plants in our gardens would disappear and be replaced by a few original wild forms." Between these two tendencies, therefore, the one derived from nature, and the other impressed by culture, it is easily seen how little likely is the progeny of varieties always to reappear in the same form.

Again, our American farmers, who raise a number of kinds of Indian corn, very well know that, if they wish to keep the sorts distinct, they must grow them in different fields. Without this precaution they find on planting the seeds produced on the

yellow corn plants, that they have the next season a progeny, not of yellow corn alone, but composed of every color and size, yellow, white and black, large and small, upon the farm. Now many of the varieties of fruit trees have a similar power of intermixing with each other while in blossom, by the dust or pollen of their flowers, carried through the air, by the action of bees and other causes. It will readily occur to the reader, in considering this fact, what an influence our custom of planting the different varieties of plum or of cherry together in a garden or orchard, must have upon the constancy of habit in the seedlings of such fruits.

But there is still another reason for this habit, so perplexing to the novice, who, having tasted a luscious fruit, plants, watches and rears its seedling, to find it, perhaps, wholly different in most respects. This is the influence of *grafting*. Among the great number of seedling fruits produced in the United States, there is found occasionally a variety, perhaps a plum or a peach, which will nearly always reproduce itself from seed. From some fortunate circumstances in its origin, unknown to us, this sort, in becoming improved, still retains strongly this habit of the natural or wild form, and its seeds produce the same. We can call to mind several examples of this; fine fruit trees whose seeds have established the reputation in the neighborhood of fidelity to the sort. But when a *graft* is taken from one of these trees, and placed upon another stock, this grafted tree is found to lose its singular power of producing the same by seed, and becomes like all other worked trees. The stock exercises some, as yet, unexplained power, in dissolving the strong natural habit of the variety, and becomes like its fellows, subject to the laws of its artificial life.

When we desire to raise new varieties of fruit, the common practise is to collect the seeds of the finest table fruits—those sorts whose merits are every where acknowledged to be the highest. In proceeding thus we are all pretty well aware, that the chances are generally a hundred to one against our obtaining any new variety of great excellence. Before we offer any advice on rearing seedlings let us examine briefly the practice and views of two distinguished horticulturists abroad, who have paid more attention to this subject than any other persons whatever; Dr. Van Mons of Belgium, and Thos. Andrew Knight, Esq., the late President of the Horticultural Society of London.

The Van Mons Theory.

Dr. Van Mons, Professor at Louvain, devoted the greater part of his life to the amelioration of fruits. His nurseries contained in 1823, no less than two thousand seedlings of merit. His perseverance was indefatigable, and experimenting mainly on

Pears, he succeeded in raising an immense number of new varieties, of high excellence. The Beurré Diel, De Louvain, Frederic of Wurtemberg, &c., are a few of the many well known sorts which are the result of his unwearied labours.

The Van Mons theory may be briefly stated as follows:

All fine fruits are artificial products; the aim of nature, in a wild state, being only a healthy, vigorous state of the tree, and *perfect seeds* for continuing the species. It is the object of culture therefore, to subdue, or enfeeble this excess of vegetation; to lessen the coarseness of the tree; to diminish the size of the seeds; and to refine the quality and increase the size of the flesh or pulp.

There is always a tendency in our varieties of fruit trees to return by their seeds towards a wild state.

This tendency is most strongly shown in the seeds borne by *old* fruit-trees. And "the older the tree is of any cultivated variety of Pear," says Dr. Van Mons, "the nearer will the seedlings, raised from it, approach a wild state, without however ever being able to return to that state."

On the other hand, the seeds of a young fruit tree of a good sort, being itself in the state of amelioration, have the least tendency to retrograde, and are the most likely to produce improved sorts.

Again, there is a certain limit to perfection in fruits. When this point is reached, as in the finest varieties, the next generation will more probably produce bad fruit, than if reared from seeds of an indifferent sort, in the course of amelioration. While, in other words, the seeds of the oldest varieties of good fruit mostly yield inferiour sorts, seeds taken from recent varieties of bad fruit, and *reproduced uninterruptedly for several generations*, will certainly produce good fruit.

With these premises, Dr. Van Mons begins by gathering his seeds from a young seedling tree, without paying much regard to its quality, except that it must be in a *state of variation;* that is to say, a garden variety, and not a wild sort. These he sows in a seedbed or nursery, where he leaves the seedlings until they attain sufficient size to enable him to judge of their character. He then selects those which appear the most promising, plants them a few feet distant in the nursery, and awaits their fruit. Not discouraged at finding most of them of mediocre quality, though differing from the parent, he gathers the first seeds of the most promising and sows them again. The next generation comes more rapidly into bearing than the first, and shows a greater number of promising traits. Gathering immediately, and sowing the seeds of this generation, he produces a third, then a fourth, and even a fifth generation, uninterruptedly, from the original sort. Each generation he finds to come more quickly into bearing than the previous ones, (the 5th sowing of

pears fruiting at three years,) and to produce a greater number of valuable varieties; until in the fifth generation the seedlings are nearly all of great excellence.

Dr. Van Mons found the pear to require the longest time to attain perfection, and he carried his process with this fruit through five generations. Apples he found needed but four races, and peaches, cherries, plums, and other stone fruits, were brought to perfection in three successive reproductions from the seed.

It will be remembered that it is a leading feature in this theory that, in order to improve the fruit, we must *subdue or enfeeble* the original coarse luxuriance of the tree. Keeping this in mind, Dr. Van Mons always gathers his fruit before fully ripe, and allows them to rot before planting the seeds, in order to refine or render less wild and harsh the next generation. In transplanting the young seedlings into quarters to bear, he cuts off the tap root, and he annually shortens the leading and side branches, besides planting them only a few feet apart. All this lessens the vigour of the trees, and produces an impression upon the nature of the seeds which will be produced by their first fruit; and, in order to continue in full force the progressive variation, he allows his seedlings to bear on their own roots.*

Such is Dr. Van Mons' theory and method for obtaining new varieties of fruit. It has never obtained much favour in England, and from the length of time necessary to bring about its results, it is scarcely likely to come into very general use here. At the same time it is not to be denied that in his hands it has proved a very successful mode of obtaining new varieties.

It is also undoubtedly true that it is a mode closely founded on natural laws, and that the great bulk of our fine varieties have originated, nominally by chance, but really, by successive reproductions from the seed in our gardens.

It is not a little remarkable that the constant springing up of fine new sorts of fruit in the United States, which is every day growing more frequent, is given with much apparent force as a proof of the accuracy of the Van Mons theory. The first colonists here, who brought with them many seeds gathered from the best old varieties of fruits, were surprised to find their seedlings producing only very inferior fruits. These seedlings had returned by their inherent tendency almost to a wild state. By rearing from them, however, seedlings of many repeated generations, we have arrived at a great number of the finest apples,

* "I have found this art to consist in regenerating in a direct line of descent, and as rapidly as possible, an improving variety, taking care that there be no interval between the generations. To sow, to re-sow, to sow again, to sow perpetually, in short to do nothing but sow, is the practice to be pursued, and which cannot be departed from; and in short this is the whole secret of the art I have employed."—Van Mons' *Arbres Fruitiers*, 1. p. 223.

pears, peaches, and plums. According to Dr. Van Mons, had this process been continued *uninterruptedly*, from one generation to the next, a much shorter time would have been necessary for the production of first rate varieties.

To show how the practice of chance sowing works in the other hemisphere, it is stated by one of the most celebrated of the old writers on fruits, Duhamel of France, that he had been in the habit of planting seeds of the finest table pears for fifty years without ever having produced a good variety. These seeds were from trees of old varieties of fruit.

The American gardener will easily perceive, from what we have stated, a great advantage placed in his hands at the present time for the amelioration of fruits by this system. He will see that, as most of our American varieties of fruit are the result of repeated sowings, more or less constantly repeated, he has before him almost every day a part of the ameliorating process in progress; to which Dr. Van Mons, beginning *de novo*, was obliged to devote his whole life. Nearly all that it is necessary for him to do in attempting to raise a new variety of excellence by this simple mode, is to gather his seeds (before they are fully ripe,) from a *seedling* sort of promising quality, though not yet arrived at perfection. The seedling must be quite young—must be on its own root (not grafted;) and it must be a healthy tree, in order to secure a healthy generation of seedlings. Our own experience leads us to believe that he will scarcely have to go beyond one or two generations to obtain fine fruit. These remarks apply to most of our table fruits commonly cultivated. On the other hand, our native grapes, the Isabella, Catawba, &c., which are scarcely removed from the wild state, must by this ameliorating process be carried through several successive generations before we arrive at varieties equalling the finest foreign grapes; a result, which, judging from what we see in progress, we have every reason speedily to hope for.

In order to be most successful in raising new varieties by successive reproduction, let us bear in mind that we must avoid—1st, the seeds of old fruit trees; 2d, those of grafted fruit trees; and 3d, that we have the best grounds for good results when we gather our seeds from a young seedling tree, which is itself rather a *perfecting* than a *perfect* fruit.

It is not to be denied that, in the face of Dr. Van Mons' theory, in this country, new varieties of rare excellence are sometimes obtained at once by planting the seeds of old grafted varieties; thus the Lawrence's Favourite, and the Columbia plums, were raised from seeds of the Green Gage, one of the oldest European varieties.

Such are the means of originating new fruits by the Belgian mode. Let us now examine another more direct, more interesting, and more scientific process—cross-breeding; a mode almost

universally pursued now by skilful cultivators, in producing new and finer varieties of plants; and which Mr. Knight, the most distinguished horticulturist of the age, so successfully practised on fruit trees.

Cross-breeding.

In the blossoms of fruit-trees, and of most other plants, the seed is the offspring of the *stamens* and *pistil*, which may be considered the male and female parents, growing in the same flower. Cross-breeding is, then, nothing more than removing out of the blossom of a fruit tree the stamens, or male parents, and bringing those of another, and different variety of fruit, and dusting the pistil or female parent with them,—a process sufficiently simple, but which has the most marked effect on the seeds produced. It is only within about fifty years that cross-breeding has been practised; but Lord Bacon, whose great mind seems to have had glimpses into every dark corner of human knowledge, finely foreshadowed it. "The compounding or mixture of plants is not found out, which, if it were, is more at command than that of living creatures; wherefore, it were one of the most notable discoveries touching plants to find it out, for so you may have great varieties of fruits and flowers yet unknown."

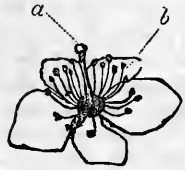


Fig. 1.

In figure 1, is shown the blossom of the Cherry. The central portion, *a*, connected directly with the young fruit, is the *pistil*. The numerous surrounding threads, *b*, are the *stamens*. The summit of the stamen is called the *anther*, and secretes the powdery substance called *pollen*. The *pistil* has at its base the embryo fruit, and at its summit, the *stigma*. The use of the stamens is to fertilize the young seed contained at the base of the pistil; and if we fertilize the pistil of one variety of fruit by the pollen of another, we shall obtain a new variety partaking intermediately of the qualities of both parents. Thus, among fruits owing their origin directly to cross-breeding, Coe's Golden Drop Plum, was raised from the Green Gage, impregnated by the Magnum Bonum, or Egg plum; and the Elton cherry, from the Bigarrieu, impregnated by the White Heart.* Mr. Knight was of opinion that the habits of the new variety would always be found to partake most strongly of the constitution and habits of the female parent. Subsequent experience does not fully confirm this, and it would appear that the parent

* The seedlings sometimes most resemble one parent sometimes the other; but more frequently share the qualities of both. Mr. Coxe describes an Apple, a cross between a Newtown Pippin and a Russet, the fruit of which resembled externally at one end the Russet and at the other the Pippin, and the flavour at either end corresponded exactly with the character of the exteriour

whose character is most *permanent*, impresses its form most forcibly on the offspring.

The process of obtaining cross-bred seeds of fruit trees is very easily performed. It is only necessary when the tree blooms which we intend to be the mother of the improved race, to select a blossom or blossoms growing upon it not yet fully expanded. With a pair of scissors, we cut out and remove all the anthers. The next day, or as soon as the blossom is quite expanded, we collect with a camel's hair brush, the pollen from a fully blown flower of the variety we intend for the male parent, applying the pollen and leaving it upon the stigma or point of the pistil. If your trees are much exposed to those busy little meddlers, the bees, it is well to cover the blossoms with a loose bag of thin gauze, or they will perhaps get beforehand with you in your experiments in cross-breeding. Watch the blossoms closely as they open, and bear in mind that the two essential points in the operation are; 1st, to extract the anthers carefully, before they have matured sufficiently to fertilize the pistil; and 2d, to apply the pollen when it is in perfection, (dry and powdery,) and while the stigma is moist. A very little practice will enable the amateur to judge of these points.

There are certain limits to the power of crossing plants. What is strictly called a *cross-bred* plant or fruit is a sub-variety raised between two varieties of the same species. There are, however, certain species, *nearly allied*, which are capable of fertilizing each other. The offspring in this case is called a *hybrid*, or mule, and does not always produce perfect seeds. "This power of hybridising," says Dr. Lindley, "appears to be much more common in plants than in animals. It is, however, in general only between nearly allied species that this intercourse can take place; those which are widely different in structure and constitution not being capable of any artificial union. Thus the different species of Strawberry, of the gourd or melon family, intermix with the greatest facility, there being a great accordance between them in general structure, and constitution. But no one has ever succeeded in compelling the pear to fertilize the apple, nor the gooseberry the currant. And as species that are very dissimilar appear to have some natural impediment which prevents their reciprocal fertilization, so does this obstacle, of whatever nature it may be, present an insuperable bar to the intercourse of the different genera. All the stories that are current as to the intermixture of oranges and pomegranates, of roses and black currants, and the like, may therefore be set down to pure invention."

In practice this power of improving varieties by crossing is very largely resorted to by gardeners at the present day. Not only in fruit trees, but in ornamental trees, shrubs, and plants, and especially in florists' flowers, it has been carried to a great

extent. The great number of new and beautiful Roses, Azaleas, Camellias, Fuchsias, Dahlias, and other flowering plants so splendid in colour, and perfect in form, owe their origin to careful cross-breeding.

In the amelioration of fruits it is by far the most certain, and satisfactory process yet discovered. Its results are more speedily obtained, and correspond much more closely to our aim, than those procured by successive reproduction.

In order to obtain a new variety of a certain character, it is only necessary to select two parents of well known habits, and which are both varieties of the same, or nearly allied species, and cross them for a new and intermediate variety. Thus, if we have a very early, but insipid and worthless sort of pear, and desire to raise from it a variety both early and of fine flavour, we should fertilize some of its pistils, with the pollen of the best flavoured variety of a little later maturity. Among the seedlings produced, we should look for early pears of good quality and at least for one or two varieties nearly, or quite as early as the female parent, and as delicious as the male. If we have a very small, but highly flavoured pear, and wish for a larger pear with a somewhat similar flavour, we must fertilize the first with the pollen of a large and handsome sort. If we desire to impart the quality of lateness to a very choice plum, we must look out for a late variety, whether of good or bad quality, as the mother, and cross it with our best flavoured sort. If we desire to impart hardiness to a tender fruit, we must undertake a cross between it and a much hardier sort; if we seek greater beauty of colour, or vigour of growth, we must insure these qualities by selecting one parent having such quality strongly marked.

As the seeds produced by cross fertilization are not found to produce precisely the same varieties, though they will nearly all partake of the mixed character of the parents, it follows that we shall be most successful in obtaining precisely all we hope for in the new race, in proportion to the number of our cross-bred seedlings; some of which may be inferiour, as well as some superiour to the parents. It is always well, therefore, to cross several flowers at once on the same plant, when a single blossom does not produce a number of seeds.

We should observe here, that those who devote their time to raising new varieties, must bear in mind that it is not always by the first fruits of a seedling that it should be judged. Some of the finest varieties require a considerable age before their best qualities develop themselves, as it is only when the tree has arrived at some degree of maturity that its secretions, either for flower, or fruit, are perfectly elaborated. The first fruit of the Black Eagle cherry, a fine cross-bred raised by Mr. Knight, was pronounced worthless when first exhibited to the London Horticultural Society; its quality now proves that the tree was not then of sufficient age to produce its fruit in perfection.

CHAPTER II.

PROPAGATION OF VARIETIES. GRAFTING. BUDDING. CUTTINGS. LAYERS AND SUCKERS.

After having obtained a new and choice kind of fruit, which in our hands is perhaps only a single tree, and which, as we have already shown, seldom produces the same from seed, the next inquiry is how to continue this variety in existence, and how to increase and extend it, so that other gardens and countries may possess it as well as ourselves. This leads us to the subject of the propagation of fruit trees, or the continuation of varieties by grafting and budding.

Grafting and budding are the means in most common use for propagating fruit trees. They are, in fact, nothing more than inserting upon one tree, the shoot or bud of another, in such a manner that the two may unite and form a new compound. No person having any interest in a garden should be unable to perform these operations, as they are capable of effecting transformations and improvements in all trees and shrubs, no less valuable, than they are beautiful and interesting.

Grafting is a very ancient invention, having been well known and practised by the Greeks and Romans. The latter, indeed, describe a great variety of modes, quite as ingenious as any of the fanciful variations now used by gardeners. The French, who are most expert in grafting, practise occasionally more than fifty modes, and within a few years have succeeded perfectly in grafting annual plants, such as the tomato, the dahlia, and the like.

The uses of grafting, and budding, as applied to fruit trees, may be briefly stated as follows:

1. The rapid increase or propagation of valuable sorts of fruit not easily raised by seeds, or cuttings, as is the case with nearly all varieties.

2. To renew or alter the heads of trees, partially or fully grown, producing in two or three years, by heading-in and grafting, a new head, bearing the finest fruit, on a formerly worthless tree.

3. To render certain foreign and delicate sorts of fruit more hardy by grafting them on robust stocks of the same species native to the country, as the foreign grape on the native. And to produce fine fruit in climates or situations not naturally favourable by grafting on another species more hardy; as in a cool

climate and damp strong soil, by working the Peach on the Plum.

4. To render *dwarf* certain kinds of fruit, by grafting them on suitable stocks of slower growth, as in the case of the Pear on the Quince, the Apple on the paradise stock, &c.

5. By grafting several kinds on the same tree, to be able to have a succession of fruit, from early to late, in a small garden.

6. To hasten the bearing of seedling varieties of fruit, or of such as are a long time in producing fruit, by grafting them on the branches of full grown, or mature bearing trees. Thus a seedling pear, which would not produce fruit on its own root in a dozen years, will generally begin to bear the third or fourth year, if grafted on the extremity of the bearing branches of a mature tree.

The proper time for grafting fruit trees is in the spring, as soon as the sap is in motion, which commences earliest with the Cherry and Plum, and ends with the Pear and Apple. The precise time of course varies with the season and the climate, but is generally comprised from February to the middle of April. The grape vine, however, which suffers by bleeding, is not usually grafted until it is in leaf. The most favourable weather for grafting is a mild atmosphere with occasional showers.

The scions are generally selected previously; as it is found in nearly all kinds of grafting by scions, that success is more complete when the stock upon which they are placed is a little more advanced—the sap in a more active state than in the scion. To secure this, we usually cut the scions very early in the spring, during winter, or even in the autumn, burying their lower ends in the ground in a shaded place, or keeping them in fine soil in the cellar till wanted for use. In cutting scions, we choose straight thrifty shoots of the last year's growth, which may remain entire until we commence grafting, when they may be cut into scions of three or four buds each. In selecting scions from old trees it is always advisable to choose the most vigorous of the last year's shoots growing near the centre or top of the tree. Scions from sickly and unhealthy branches should be rejected, as they are apt to carry with them this feeble and sickly state. Scions taken from the lower bearing branches will produce fruit soonest, but they will not afford trees of so handsome a shape, or so vigorous a growth, as those taken from the thrifty upright shoots near the centre or top of the tree. Nurserymen generally take their scions from young grafted trees in the nursery-rows, these being usually in better condition than those taken from old trees not always in a healthy state.

The stock for grafting upon, is generally a tree which has been standing, at least for a year previously, on the spot where it is grafted, as success is much less certain on newly moved trees.

In the case, however, of very small trees or stocks, which are grafted below the surface of the ground, as is frequently the practice with the Apple in American nurseries, the stocks are grafted in the house in winter, or early spring, put away carefully in a damp cellar, and planted out in the spring; but this method is only successful when the root is small, and when the top of the stock is taken off, and the whole root is devoted to supplying the graft with nourishment.

The theory of grafting is based on the power of union between the young tissues, or organizable matter of growing wood. When the parts are placed nicely in contact, the ascending sap of the stock passes into and sustains life in the scion; the buds of the latter, excited by this supply of sap and the warmth of the season, begin to elaborate and send down woody matter, which, passing through the newly granulated substance of the parts in contact, unites the graft firmly with the stock. "If," says De Candolle, "the descending sap has only an incomplete analogy with the wants of the stock, the latter does not thrive, though the organic union may have taken place; and if the analogy between the albumen of stock and scion is wanting, the organic union does not operate, the scion cannot absorb the sap of the stock and the graft fails."

Grafting therefore is confined within certain limits. A scion from one tree will not, from the want of affinity, succeed on every other tree, but only upon those to which it is allied. We are, in short, only successful in budding or grafting where there is a close relationship and similarity of structure between the stock and the scion. This is the case with *varieties* of the same species, which take most freely, as the different sorts of Apple; next with the different *species* of a genus as the Apple and the Pear, which grow, but in which the union is less complete and permanent; and lastly with the *genera* of the same natural family, as the Cherry on the Plum—which die after a season or two. The ancients boasted of Vines and Apples grafted on Poplars and Elms; but repeated experiments, by the most skilful cultivators of modern times, have clearly proved that although we may, once in a thousand trials, succeed in effecting these ill assorted unions, yet the graft invariably dies after a few months' growth.*

The range in grafting or budding, for fruit trees in ordinary

* The classical horticulturist will not fail to recall to mind Pliny's account of the tree in the garden of Lucullus, grafted in such a manner as to bear Olives, Almonds, Apples, Pears, Plums, Figs, and Grapes. There is little doubt, however, that this was some ingenious deception—as to this day the Italian gardeners pretend to sell Jasmines, Honeysuckles, &c., growing together and grafted on Oranges and Pomegranates. This is ingeniously managed, for a short-lived effect, by introducing the stems of these smaller plants through a hole bored up the centre of the stock of the trees—their roots being in the same soil, and their stems, which after a little growth fill up these holes, appearing as if really grafted.

culture, is as the following; Apples, on apple or crab seedlings for orchards (standards,) or on Paradise apple stocks, for dwarfs; Pears, on pear seedlings for common culture, or Quince stocks for dwarfs, and sometimes on the thorn for clayey soils; Peaches, on their own seedlings for standards or for orchards; on Almonds, for hot and dry climates; on Plums in cold or moist soils, or to secure them against the worm; Apricots, on Plum stocks, to render them hardy and productive, or on their own seedlings to render them long-lived. Nectarines are usually worked on the Peach or Plum; and Cherries on mazzard seedlings; or sometimes on the perfumed Cherry for dwarfs.

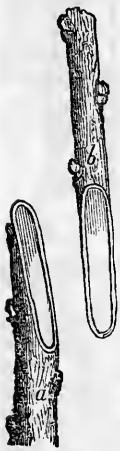


Fig. 2. *Splice grafting.*

The manual operation of grafting is performed in a very easy and complete manner when the size of the stock, or branch to be grafted, corresponds precisely with that of the scion. In this case, which is called *splice grafting*, it is only necessary with a smooth sloping cut, upwards on the stock *a*, and downwards on the scion *b*, Fig. 2, to make the two fit precisely, so that the inner bark of one corresponds exactly with that of the other, to bind them firmly together with a strand of matting, and to cover the wound entirely with grafting clay or wax, and the whole is finished. In this, which is one of the neatest modes, the whole forms a complete union nearly at once; leaving scarcely any wounded part to heal over. But, as it is only rarely that the stock is of so small a size as to fit thus perfectly to the scion, the operation must be varied somewhat, and requires more skill. The method in most common use to cover all difficulties, is called tongue grafting.

We may remark here that grafting the shoots of Peaches, Nectarines and Apricots, owing to their large pith, is more difficult than that of other fruit trees. A variation of splice-grafting, Fig. 3, has been invented to obviate this. This consists in selecting the scion *a*, so as to leave at its lower end about a fourth of an inch of two years old wood which is much firmer. The bottom of the slope on the stock is cut with a dove-tail notch *b*, into which the scion is fitted.

Fig. 3. *Splice grafting the peach.*

Tongue grafting, (or whip-grafting,) Fig. 4, resembles very nearly splice-grafting, except, instead of the simple splice, a tongue is made to hold the two together more firmly. In order to understand this method let us explain it a little in detail.

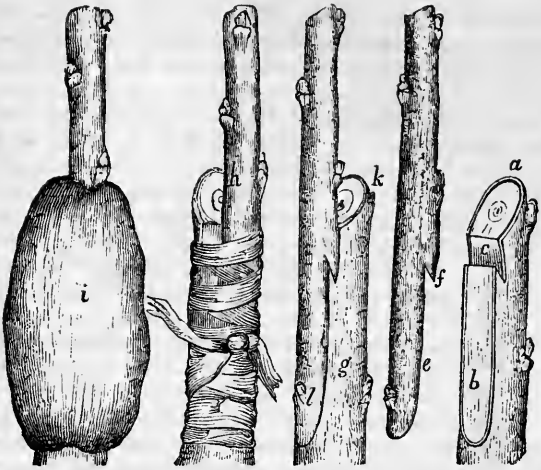


Fig. 3. *Tongue-grafting, progressive stages.*

Having chosen your stock of the proper size, cut it off at the point where, *a*, it appears best to fix the graft. If the stock is quite small, it may be within three or four inches of the ground. Then, with a *very sharp knife*, make a smooth cut upwards, *b*, about two inches in length. Next make a slit from the top of this cut about one fourth of the way downwards, *c*, taking out a thin tongue of wood. Cut the scion four or five inches long, or so as to have three buds; then shape the lower end with a single smooth sloping cut, *e*, about the same length as that on the stock, and make the tongue upward, *f*, to fit in the downward slit of the stock. Now apply the scion accurately to the stock, making the *inner bark of the scion fit exactly the inner bark of the stock, at least on one side, g.* Without changing their position, tie them together carefully with a piece of bass-matting or tape, *h*. And finally cover the wound with well prepared grafting-clay or wax, *i*. This ball of clay should more than cover the union, by an inch above and below, and should be about an inch thick. If grafting-wax is used, the covering need not be above half an inch thick.

In a month's time, if the graft has taken, it will be expanding its leaves and sending out shoots. It will then be necessary to rub or cut off all shoots between the ball and the ground, if it is a small stock, or all those which would rob it of a principal share of nourishment, if upon a large tree. If the scion or stock is very weak, it is usual to leave one or two other buds for a time, to assist in drawing up the sap. About the middle of July, after a rainy day, you may remove the ball of clay, and, if the graft is

securely united, also the bandage; and the angle left at the top of the stock, *a*, should now be cut off smoothly, in order to allow the bark of the stock and the scion to heal neatly over the whole wound.

Though it is little attended to in common practice, the amateur will be glad to know that the success of a graft is always greatly insured by choosing the parts so that a bud is left near the top of the stock, *k*, and another near the bottom of the scion, *l*. These buds attract the rising sap to the portions where they are placed, form woody matter, and greatly facilitate the union of the parts near them; the upper part of the stock, and the lower part of the scion, being the portions soonest liable to perish from a want of nourishment.*

Cleft grafting is a very easy though rather clumsy mode, and is in more common use than any other in the United States. It is chiefly practised on large stocks, or trees the branches of which have been headed back, and are too large for tongue-grafting.

Fig. 4.

The head of the stock is first cut over horizontally with the saw, and smoothed with a knife. A cleft about two inches deep is then made in the stock with a hammer and splitting-knife. The scion is now prepared, by sloping its lower end in the form of a wedge about an inch and a half long, leaving it a little thicker on the outer edge. Opening the cleft with the splitting-knife, or a small chisel for that purpose, push the scion carefully down to its place, fitting its inner bark on one side to that of one side of the stock. When the stock is large, it is usual to insert two scions, Fig. 4. On withdrawing the chisel, the cleft closes firmly on the scions, when the graft is tied and clayed in the usual manner.

Apple stocks in many American nurseries, are grafted in great quantities in this mode—the stocks being previously taken out of the ground, headed down very near the root, cleft grafted with a single scion, sloping off with an oblique cut the side of the stock opposite that where the graft is placed, and then planted at once in the rows so as to allow only a couple of buds of the scion to appear above ground. It is not usual with many, either to tie, or clay the grafts in this case, as the wound is placed below the surface; but when this plan is adopted, the grafts must be set

* In grafting large quantities of young trees when stocks are scarce, it is not an unusual practice in some nurseries to tongue or whip-graft upon small *pieces of roots* of the proper sort of tree, planting the same in the earth as soon as grafted. Indeed, Dr. Van Mons considers this the most complete of all modes, with regard to the perfect condition of the grafted sort; 1st, because the smallest quantity of the stock is used; and 2d, because the lower part of the scion being thus placed in the ground, after a time it throws out fibres from that portion, and so at last is actually growing on its own roots.

and the trees planted at once, drawing the well pulverized soil with great care around the graft. Another way of grafting apple stocks, common in some western nurseries, consists in tongue-grafting on seedling stocks of very small size, cut back almost to the root. This is performed in winter, by the fire-side—the grafts carefully tied, and the roots placed in the cellar, in sand, till spring, when they are planted, the top of the graft just above ground.

Grafting the Vine is attended with great success in the cleft manner if treated as follows. Cut your scions during the winter or early spring, keeping them partially buried in a cool damp cellar till wanted. As soon as the leaves of the old vine or stock are fully expanded, and all danger of bleeding is past—say about the 10th of June, cut it off smoothly below the surface of the ground, and split the stock and insert one or two scions in the usual manner, binding the cleft well together if it does not close firmly. Draw the soil carefully over the whole, leaving two or three buds of the scion above the surface. If the root of the stock is a strong native grape, the graft will frequently grow ten or fifteen feet during the first season, and yield a fair crop the second year.

Fig. 5.
Saddle grafting.

The Vine may also be grafted with good success at the usual season if grafted below the ground, but above ground, it should not be attempted, on account of bleeding, until the leaves are nearly expanded.

Saddle grafting, Fig. 5, consists in cutting the top of the stock in the form of a wedge, splitting the scion and thinning away each half to a tongue shape, placing it astride the stock, and fitting the two, at least on one side, as in tongue-grafting. This mode offers the largest surface for the junction of the scion and stock, and the union is very perfect. Mr. Knight, who practised it chiefly upon Cherry trees, states that he has rarely ever seen a graft fail, even when the wood has been so succulent and immature as to preclude every hope of success by any other mode.

A variety of this mode, for stocks larger than the scions, is practised with much success in England after the usual season is past, and when the bark of the stock separates readily. "The scion, which must be smaller than the stock, is split up between two or three inches from its lower end, so as to have one side stronger than the other. This strong side is then properly prepared and introduced between the bark and the wood; while the thinner division is fitted to the opposite side of the stock." The graft, thus placed, receives a large supply of the sustaining fluid from the stock, and the union

is rapid; while the wound on the stock is speedily covered by a new layer of bark from that part of the scion which stands astride it.

Grafting clay is prepared by mixing one third horse-dung free from straw, and two thirds clay, or clayey loam, with a little hair, like that used in plaster, to prevent its cracking. Beat and temper it for two or three days, until it is thoroughly incorporated. When used, it should be of such a consistency as to be easily put on and shaped with the hands.

Grafting wax of excellent quality we have made by melting together three parts of bees-wax, three parts of rosin and two parts tallow. While yet warm it may be worked with the aid of a little water, like shoemaker's wax, by the hand. The common grafting wax of the French gardeners is of two kinds.

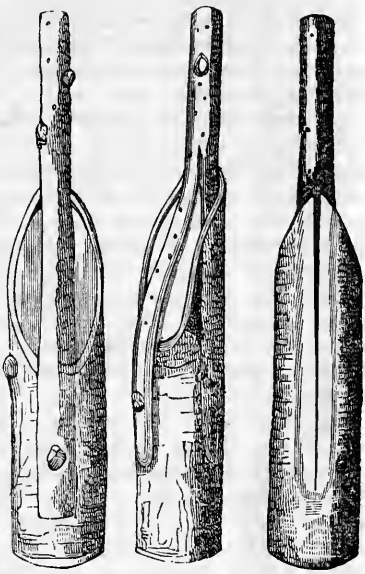


Fig. 6. *Saddle grafting large stocks.*

The first, is melted and laid on with a brush in a fluid state, and is made of half a pound of pitch, half a pound of bees-wax, and a pound of cow-dung boiled together. The second, which is spread while warm on strips of coarse cotton, or strong paper, and wrapped directly about the graft, answering at once to tie and to proteet it, is composed of equal parts of bees-wax, turpentine and resin. The grafting wax most commonly used here is made of tallow, bees-wax, and resin, in equal parts, or, as many prefer, with a little more tallow to render it pliable.

Grafting wax is a much neater and more perfect protection than grafting clay, but the trifling cost of the latter, where a great deal of work is to be done, accounts for its greater use by nurserymen, and gardeners generally.

Budding.

Budding (*inoculating*, of the old authors) differs from common grafting not the least in its nature or effects. Every bud is a distinct individual, capable of becoming a tree under favourable

circumstances. In grafting, we use a branch, composed of several buds with a considerable quantity of bark and wood; while in budding, we employ but a single bud, with a very small quantity of the adjoining bark and wood.

The advantages of budding fruit trees, compared with grafting, are so considerable, that in this country it is ten times as much practised. These are, first, the great rapidity with which it is performed; a skilful budder, with a clever boy following him to *tie* the buds, being able to work from a thousand to twelve hundred young nursery stocks in a day. 2*d*. The more convenient season at which it is performed, in all countries where a short spring crowds garden labours within a small space. 3d. Being able to perform the operation without injuring the stock in case of failure, which is always more or less the case in stocks headed down for grafting. 4th. The opportunity which it affords, when performed in good season, of repeating the trial on the same stock. To these we may add that budding is universally preferred here for all stone fruits, such as Peaches, Apricots, and the like, as these require extra skill in grafting, but are budded with great ease.

The proper season for budding fruit trees in this country is from the first of July to the middle of September; the different trees coming into season as follows; Plums, Cherries, Apricots on Plums, Apricots, Pears, Apples, Quinces, Nectarines, and Peaches. Trees of considerable size will require budding earlier than young seedling stocks. But the operation is always, and only, performed *when the bark of the stock parts or separates freely from the wood*, and when the buds of the current year's growth are somewhat plump, and the young wood is growing firm. Young stocks in the nursery, if thrifty, are usually planted out in the rows in the spring, and budded the same summer or autumn.

Fig. 7. *Budding knife*

Before commencing you should provide yourself with a budding knife, Fig. 7, (about four and a half inches long,) having a rounded blade at one end, and an ivory handle terminating in a thin rounded edge called the *haft*, *a*, at the other.

In choosing your buds, select thrifty shoots that have nearly done growing, and prepare what is called a *stick of buds*, Fig. 8, by cutting off a few of the imperfect buds at the lower, and such as may be yet too soft at the upper ends, leaving only smooth well developed single buds; double buds being fruit-buds. Cut off the leaves, allowing about half an inch of the *foot-stalks* to remain for conveniently inserting the buds. Some strands of bass-matting about twelve or fourteen inches long, previously soaked in water to

render them soft and pliable, (or in the absence of these some soft woollen yarn,) must also be at hand for tying the buds.

Shield or T budding is the most approved mode in all countries. A new variety of this method now generally practised in this country we shall describe first as being the simplest and best mode for fruit trees.

Fig. 8. *A stick of buds.*

American shield budding. Having your stick of buds ready, choose a smooth portion of the stock. When the latter is small, let it be near the ground, and, if equally convenient, select also the north side of the stock, as less exposed to the sun. Make an upright incision in the bark from an inch to an inch and a half long, and at the top of this make a cross cut, so that the whole shall form a T. From the stick of buds, your knife being very sharp, cut a thin, smooth slice of wood and bark containing a bud, Fig. 9, *a*. With the ivory haft of your budding knife, now raise the bark on each side of the incision just wide enough to admit easily the prepared bud. Taking hold of the footstalk of the leaf, insert the bud under the bark, pushing it gently down to the bottom of the incision. If the upper portion of the bud projects above the horizontal part of the T, cut it smoothly off now, so that it may completely fit, *b*. A bandage of the soft matting is now tied pretty firmly over the whole wound, Fig. 10, commencing at the bottom, and leaving the bud, and the footstalk of the leaf only exposed to the light and air.

Fig. 9. *American shield budding.*

Common shield budding, Fig. 11, practised in all gardens in Europe, differs from the foregoing only in one respect—the removal of the slice of wood contained in the bud. This is taken out with the point of the knife, holding the bud or shield by the leaf stalk, with one hand, inserting the knife under the wood at the lower extremity, and then raising and drawing out the wood by bending it upwards and downwards, with a slight jerk, until it is loosened from the bark; always taking care that a small portion of the wood remains behind to fill up the hollow at the base or heart of the bud. The bud thus prepared is inserted precisely as before described.

Fig. 10.

The American variety of shield budding is found greatly preferable to the European mode, at least for this climate. Many sorts of fruit trees, especially Plums and Cherries, nearly mature

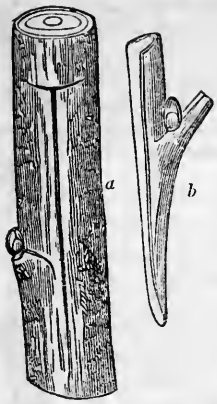


Fig. 11.

their growth, and require to be budded in the hottest part of our summer. In the old method, the bud having only a shield of bark with but a particle of wood in the heart of the bud, is much more liable to be destroyed by heat, or dryness, than when the slice of wood is left behind in the American way. Taking out this wood is always an operation requiring some dexterity and practice, as few buds grow when their eye, or heart wood is damaged. The American method, therefore, requires less skill, can be done earlier in the season with younger wood, is performed in much less time, and is uniformly more successful. It has been very fairly tested upon hundreds of thousand fruit trees, in our gardens, for the last twenty years, and although practised English budders coming here, at first are greatly prejudiced against it, as being in direct opposition to one of the most essential features in the old mode, yet a fair trial has never failed to convince them of the superiority of the new.

After treatment. In two weeks after the operation you will be able to see whether the bud has taken, by its plumpness and freshness. If it has failed, you may, if the bark still parts readily, make another trial; a clever budder will not lose more than 6 or 8 per cent. If it has succeeded, after a fortnight more has elapsed, the bandage must be loosened, or if the stock has swelled much, it should be removed altogether. When budding has been performed very late, we have occasionally found it an advantage to leave the bandage on during the winter.

As soon as the buds commence swelling in the ensuing spring, head down the stock, with a sloping back cut, within two or three inches of the bud. The bud will then start vigorously, and all "robbers," as the shoots of the stock near to and below the bud are termed, must be taken off from time to time. To secure the upright growth of the bud, and to prevent its being broken by the winds, it is tied when a few inches long to that portion of the stock left for the purpose, Fig. 12, *a*. About midsummer, if the shoot is strong, this support may be removed, and the superfluous portion of the stock smoothly cut away in the dotted line, *b*, when it will be rapidly covered with young bark.

Fig. 12. *Treatment of the growing bud.*

We have found a great advantage, when budding trees which do not take readily, in adopting Mr. Knight's excellent mode of tying with two distinct bandages; one covering that part below the bud,

and the other the portion above it. In this case the lower bandage is removed as soon as the bud has taken, and the upper left for two or three weeks longer. This, by arresting the upward sap, completes the union of the upper portion of bud, (which in plums frequently dies, while the lower part is united,) and secures success.

Reversed shield budding, which is nothing more than making the cross cut at the bottom, instead of the top of the upright incision in the bark, and inserting the bud from below, is a good deal practised in the south of Europe, but we have not found that it possesses any superiour merit for fruit trees.

An ingenious application of budding, worthy the attention of amateur cultivators, consists in using a blossom-bud instead of a wood-bud; when, if the operation is carefully done, blossoms and fruit will be produced at once. This is most successful with the Pear, though we have often succeeded also with the Peach. Blossom-buds are readily distinguished, as soon as well formed, by their roundness, and in some trees by their growing in pairs; while wood-buds grow singly, and are more or less pointed. We have seen a curious fruit grower borrow in this way, in September, from a neighbor ten miles distant, a single blossom-bud of a rare new pear, and produce from it a fair and beautiful fruit the next summer. The bud, in such cases, should be inserted on a favourable limb of a bearing tree.

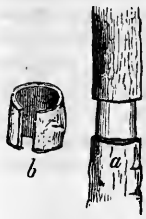


Fig. 13.
Annular budding.

Annular budding, Fig. 13, we have found a valuable mode for trees with hard wood, and thick bark, or those which, like the walnut, have buds so large as to render it difficult to bud them in the common way. A ring of bark, when the sap is flowing freely, is taken from the stock, *a*, and a ring of corresponding size containing a bud, *b*, from the scion. If the latter should be too large, a piece must be taken from it to make it fit; or should all the scions be too small, the ring upon the stock may extend only three fourths the way round, to suit the ring of the bud.

An application of this mode of great value occasionally occurs in this country. In snowy winters, fruit trees in orchards are sometimes girdled at the ground by field mice, and a growth of twenty years is thus destroyed in a single day, should the girdle extend quite round the tree. To save such a tree, it is only necessary, as soon as the sap rises vigorously in the spring, to apply a new ring of bark in the annular mode taken from a branch of proper size; tying it firmly, covering it with grafting clay to exclude the air, and finally drawing up the earth so as to cover the wound completely. When the tree is too large to apply an entire ring, separate pieces, carefully fitted, will answer; and it is well to reduce the top somewhat by pruning

that it may not make too large a demand on the root for a supply of food.

Budding may be done in the spring as well as at the latter end of summer, and is frequently so performed upon roses, and other ornamental shrubs, by French gardeners, but is only in occasional use upon fruit trees.

Influence of the stock and graft.

The well known fact that we may have a hundred different varieties of pear on the same tree, each of which produces its fruit of the proper form, colour, and quality; and that we may have, at least for a time, several distinct, though nearly related species upon one stock, as the Peach, Apricot, Nectarine, and Plum, prove very conclusively the power of every grafted or budded branch, however small, in preserving its identity. To explain this, it is only necessary to recall to mind that the ascending sap, which is furnished by the root or stock, is nearly a simple fluid; that the leaves digest and modify this sap, forming a proper juice, which re-descends in the inner bark, and that thus every bud and leaf upon a branch maintains its individuality by preparing its own proper nourishment, or organizing matter, out of that general aliment, the sap. Indeed, according to De Candolle,* each separate cellule of the inner bark has this power of preparing its food according to its nature; in proof of which, a striking experiment has been tried by grafting rings of bark, of different allied species, one above another on the same tree without allowing any buds to grow upon them. On cutting down and examining this tree, it was found that under each ring of bark was deposited the proper wood of its species, thus clearly proving the power of the bark in preserving its identity, even without leaves.

On the other hand, though the stock increases in size by the woody matter received in the descending sap from the graft, yet as this descends through the inner bark of the stock, it is elaborated by, and receives its character from the latter; so that, after a tree has been grafted fifty years, a shoot which springs out from its trunk below the place of union, will always be found to bear the original wild fruit, and not to have been in the least affected by the graft.

But, whilst grafting never effects any alteration in the identity of the variety or species of fruit, still it is not to be denied that the stock does exert certain influences over the habits of the graft. The most important of these are dwarfing, inducing fruitfulness, and adapting the graft to the soil or climate.

Thus every one knows that the slower habit of growth in the

* *Physiologie Végétale.*

Quince stock, is shared by the Pear grafted upon it, which becomes a dwarf; as does also the Apple when worked on the Paradise stock; and, in some degree, the Peach on the Plum. The want of entire similarity of structure between the stock and graft, confines the growth of the latter, and changes it, in the case of the Pear, from a lofty tree to a shrub of eight or ten feet in height. The effect of this difference of structure is very apparent, when the Peach is grafted on the Plum, in the greater size of the trunk above, as compared with that below the graft; a fact which seems to arise from the obstruction which the descending sap of the graft finds in its course through the bark of the stock.

To account for the earlier and greater fruitfulness caused by grafting on a stock of slower growth, Mr. Knight, in one of his able papers, offers the following excellent remarks.

"The disposition in young trees to produce and nourish blossom buds and fruit, is increased by this apparent obstruction of the descending sap; and the fruit, I think, ripens somewhat earlier than upon other young trees of the same age which grow upon stocks of their own species. But the growth and vigour of the tree, and its power to nourish a succession of heavy crops, are diminished, apparently, by the stagnation in the branches and stock of a portion of that sap which, in a tree growing on its own stem, or upon a stock of its own species, would descend to nourish and promote the extension of its own roots. The practice, therefore, of grafting the Pear on the Quince, and the Peach on the Plum, when extensive growth and durability are wanted is wrong; but it is eligible wherever it is wished to diminish the vigour and growth of the tree, and its durability is not so important."

In adapting the graft to the soil the stock has a marked influence. Thus in dry chalky soils where the Peach on its own roots will scarcely grow, it is found to thrive admirably budded on the Almond. We have already mentioned that in clay soils too heavy and moist for the Peach, it succeeds very well if worked on the Plum. M. Floss, a Prussian gardener, succeeded in growing fine pears in very sandy soils, where it was nearly impossible to raise them before, by grafting them on the Mountain Ash, a nearly related tree, which thrives on the dryest and lightest soil.

A variety of fruit which is found rather tender for a certain climate, or a particular neighbourhood, is frequently acclimatised by grafting it on a native stock of very hardy habits. Thus near the sea-coast where the finer plums thrive badly, we have seen them greatly improved by being worked on the beech-plum, a native stock, adapted to the spot; and the foreign grape is more luxuriant when grafted on our native stocks.

A slight effect is sometimes produced by the stock on the quality of the fruit. A few sorts of pear are superior in fla-

vour, but many are also inferiour, when grafted on the Quince, while they are more gritty on the thorn. The Green Gage, a Plum of great delicacy of flavour, varies considerably upon different stocks; and Apples raised on the crab, and pears on the Mountain Ash, are said to keep longer than when grown on their own roots.

In addition to the foregoing, a diseased stock should always be avoided, as it will communicate disease slowly to the graft, unless the latter is a variety of sufficient vigour to renew the health of the stock, which is but seldom the case.

The cultivator will gather from these remarks that, in a favourable climate and soil, if we desire the greatest growth, duration, and development in any fruit, (and this applies to orchards generally,) we should choose a stock of a closely similar nature to the graft—an apple seedling for an apple; a pear seedling for a pear. If we desire dwarf trees, that come into bearing very young, and take little space in a garden, we employ for a stock an allied species of slower growth. If our soil or climate is unfavourable, we use a stock, which is adapted to the soil, or which will, by its hardier roots, endure the cold.

The influence of the graft on the stock seems scarcely to extend beyond the power of communicating disease. A graft taken from a tree enfeebled by disease, will recover with difficulty, even if grafted on healthy stocks for a dozen times in repeated succession. And when the disease is an inherent or hereditary one, it will certainly communicate it to the stock. We have seen the *yellows*, from a diseased peach tree, propagated through hundreds of individuals by budding, and the stock and graft both perish together from its effects. Hence the importance, to nurserymen especially, of securing healthy grafts, and working only upon healthy stocks.

Propagation by cuttings.

Propagating by cuttings, as applied to fruit trees, consists in causing a shoot of the previous season's wood to grow, by detaching it from the parent tree at a suitable season, and planting it in the ground under favourable circumstances.

In this case, instead of uniting itself by woody matter to another tree, as does the scion in grafting, the descending woody matter becomes roots at the lower end, and the cutting of which, is then a new and entire plant. Every bud being a distinct individual, capable of forming a new plant, has indeed theoretically the power, if separated from the parent stem, of throwing out roots and maintaining a separate existence; and some plants, as the grape vine, are frequently propagated by single buds planted in the soil. But in practice, it is found necessary, with almost all trees and plants, to retain a considerable portion of the *stem* with the bud

to supply it with food until it has formed roots to draw nourishment from the soil.

All fruit trees may be propagated by cuttings with proper care and attention, but only a few grow with sufficient facility in this way to render their propagation by cuttings a common mode. These are the Gooseberry, the Currant, the Vine, the Quince, the Fig, and the Mulberry.

Cuttings of the Currant, Gooseberry, and the hardy sorts of Vine, will root readily, in a soil not too dry, in the open garden. Currants and Gooseberries are generally taken off in the fall or winter, prepared for planting, and two-thirds of their lower ends buried in the ground till the commencement of spring, when they are planted out, either where they are to remain, or in nursery rows. If planted in autumn, they are liable to be thrown out by winter frosts. They will succeed nearly as well if taken off in the spring, but, owing to the period at which they commence growing, this must be attended to *very early*, if deferred till that season.

Fig. 14. *A gooseberry cutting, prepared and planted.*

In order to raise plants of the Gooseberry and Currant, with straight clean stems, which shall not throw up suckers, it is only necessary, before planting the cutting, to cut out every eye or bud to be placed below the surface of the ground, Fig. 14. The cutting should be about a foot long, eight inches of which may be inserted in the ground. To insure greater success in raising the finer sorts of gooseberry, or other shrubs, it is customary to plant the cuttings on the shaded side of a wall or fence, in deep rich loam, rather damp than dry. Cuttings of the vine are generally prepared when trimming the old plants in autumn, or winter; they may then be buried with their lower ends in the ground, or kept in earth in the cellar till spring.

Scarce sorts of foreign grapes, which it is desirable to multiply extensively, are frequently propagated by joints; that is, by buds having about two inches of wood attached to each—every bud in this way forming a plant. When this mode is adopted, it is usual to plant the joints about half an inch deep, in light soil, in a common hot bed prepared for the purpose, or each joint is planted in a pot by itself. In the first way a great number of plants may be grown in a small space. Success is more certain in propagating the vine by joints, where the joint is halved before planting, Fig. 15.

Fig. 15. *A vine joint, prepared and planted.*

The large English black mulberry is propagated by cuttings

as follows: about the last of October, take cuttings from the thrifty shoots of a bearing tree, cut out all the buds except two or three at the top, and pare off the bottom of the cutting just below a bud. Lay-in the cuttings in a sheltered border, burying them so that only the two buds at the top are exposed, and covering them with some loose straw or litter. In the spring, make a small hot-bed with very sandy soil in which to plant the cuttings on taking them out of the ground, or place each one in a small pot in any hot-bed ready at hand, and in a few weeks they will be found to have made roots freely.

As a general rule, cuttings succeed best when they are taken off just between the young and the previous year's wood; or, in the case of young side shoots, when they are cut off close to the branch preserving the *collar* of the shoot. The lower end should be cut smoothly across just below a bud, the soil should in all cases be pressed firmly about the lower end of the cutting, and it should always be planted before the buds commence swelling, that the wound may in some measure heal before growth and the absorption of fluid commences.

Propagation by Layers and Suckers.

A layer may be considered as a cutting not entirely separated from the plant.

Layering is a mode of propagation resorted to in increasing some fruit tree stocks, as the Paradise stock, the Muscle Plum, and some kinds which do not grow so well from the seed. Certain varieties of native grape, as the Bland's Virginia, which do not root readily by cuttings, are also raised in this way, and it may be applied to any sort of fruit tree which it is desirable to continue on its own root without grafting.

Fruit trees are generally layered in the spring, and the layers may be taken off well-rooted plants in the autumn. But they may also be layered with success early in July.

In making layers the ground around the mother plant should be made light and mellow by digging. Being provided with some hooked pegs to fasten down the layers, bend down a branch, so that the end may recline upon the ground. Open a little trench three or four inches deep to receive the young wood to be layered; make a cut or tongue Fig. 16 *a*, half way through the under side of the shoot, pegging down the branch with the hooked peg *b*, to

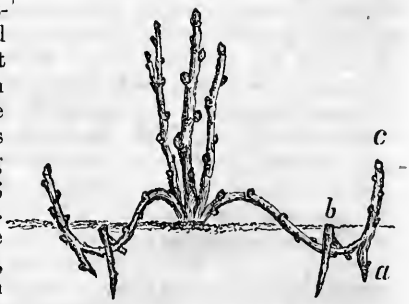


Fig. 16. *Layering.*

keep it in its place; press the earth slightly round the tongue, and, in filling in the soil, raise nearly upright the end of the layer *c*, which remains above the surface of the ground.

The descending sap, filled with organizable matter, is arrested by this tongue, accumulates there, and the emission of roots speedily takes place. Ringing, wounding, or twisting the limb, answers the same purpose less perfectly, and indeed many trees root readily from the mere position of the branches as layers, and the moisture of the soil.

A tree or plant which is kept for raising layers is called a *stool*, and is headed down, both to facilitate the rooting of the layers, and to afford an abundance of shoots near the earth. Shoots of some of the fruit tree stocks in the English nurseries are pegged down to the surface before growth commences in the spring, covered about an inch deep with soil, and at the end of autumn afford hundreds of plants; almost every bud making a separate root.

Suckers are shoots sent up from the root, or from portions of the stem below the surface of the soil, which are easily separated from the parent plant.

Suckers of fruit trees are frequently used as stocks for budding or grafting upon, but they are greatly inferior to seedlings for this purpose, as they are always more liable to produce suckers, and they have not the thrifty vigorous habit, or the same power of forming as good roots as seedlings. Besides this, should the tree from which they are taken be diseased, they will be likely to carry the malady with them.

Propagating by suckers is an easy and desirable way when we wish to continue a seedling fruit of value on its own root, and some of our common fruits appear to be more healthy and permanent when growing in that way. It is also the only mode in use for increasing the Raspberry; as is also that of runners, which is a kind of sucker above ground, for the Strawberry.

CHAPTER III.

PRUNING.

1. *Pruning to promote growth or modify the form of fruit trees.*

In this country almost all fruit trees are grown as *standards*. In this way they develop their natural forms, attain the largest size, and produce the greatest quantity of fruit, with the least possible care. Our bright and powerful sun, reaching every

part of the tree, renders the minute systems of pruning and training, which occupy so large a portion of the English works on this subject, of little or no moment to the cultivator here. Pruning is, therefore, commonly resorted to only for the purpose of increasing the vigour of feeble trees, or to regulate and improve the form of healthy and luxuriant trees.

Pruning has the power of increasing the vigour of a tree in two ways. If we assume that a certain amount of nourishment is supplied by the roots to all the branches and buds of a tree, by cutting off one half of the branches, at the proper season, we direct the whole supply of nourishment to the remaining portion, which will, consequently, grow with nearly double their former luxuriance. Again, when a tree becomes stunted or enfeebled in its growth, the thinness of its inner bark, with its consequent small sap-vessels, (which it must be remembered are the principal channel for the passage of the ascending supply of food) renders the upward and downward circulation tardy, and the growth is small. By heading back or pruning judiciously, all the force of the nourishing fluid is thrown into a smaller number of buds, which make new and luxuriant shoots, larger sap-vessels, and which afford a ready passage to the fluids, and the tree with these renewed energies will continue in vigour for a long time.

This treatment is especially valuable in the case of small trees of feeble or stunted growth, which are frequently cut back to a single bud, and a new shoot or shoots, full of vigour, gives a healthy habit to the tree. In the nurseries, this practice of heading down unthrifty trees is frequently pursued, and small orchard trees which have become enfeebled may be treated in the same manner; cutting back the head as far as the place where it is wished that new shoots should spring out. Older trees should be headed back more sparingly, unless they are greatly enfeebled; and their roots should at the same time be assisted by manure.

A judicious pruning to modify the form of our standard trees is nearly all that is required in ordinary practice. *Every fruit tree, grown in the open orchard or garden as a common standard, should be allowed to take its natural form, the whole efforts of the pruner going no further than to take out all weak and crowded branches;* those which are filling uselessly the interiour of the tree, where their leaves cannot be duly exposed to the light and sun, or those which interfere with the growth of others. All pruning of large branches in healthy trees should be avoided by examining them every season and taking out superfluous shoots while small. Mr. Coxe, the best American author on fruit trees, remarks very truly "when orchard trees are much pruned, they are apt to throw out numerous (superfluous) suckers from the boughs in the following summer; these should be rubbed off when they first appear, or they may easily

be broken off while young and brittle—cutting is apt to increase their number."

Where pruning is not required to renovate the vigour of an enfeebled tree, or to regulate its shape—in other words, in the case of a healthy tree which we wish to retain in a state of the greatest luxuriance, health, and vigour, it may be considered worse than useless. Bearing in mind that growth is always corresponding to the action of the leaves and branches, if these are in due proportion, and in perfect health, the knife will always be found rather detrimental to luxuriance and constitutional vigour than beneficial.*

The best season for pruning to promote growth, theoretically, is in autumn soon after the fall of the leaf. Next to this, winter pruning, performed in mild weather, is best, and in orchards this is the season usually most convenient. In all parts of the country where the winters are not very severe, (and always in the southern or western states,) the roots are collecting a certain stock of nourishment during the whole autumn and winter. When a tree is pruned in autumn or winter this whole supply goes to the remaining branches, while in the case of spring pruning it is partly lost. North of the 43° of latitude, however, the winters are so severe that winter pruning should be deferred till the last of February.

We should especially avoid pruning at that period in spring when the buds are swelling, and the sap is in full flow, as the loss of sap by bleeding is very injurious to most trees, and, in some, brings on a serious and incurable canker in the limbs.

There are advantages and disadvantages attending all seasons of pruning, but our own experience has led us to believe that, practically, *a fortnight before midsummer is by far the best season, on the whole, for pruning in the northern and middle states.* Wounds made at this season heal over freely and rapidly; it is the most favourable time to judge of the shape and balance of the head, and to see at a glance which branches require removal; and all the stock of organizable matter in the tree is directed to the branches that remain.

In pruning large limbs, some composition should always be at hand to cover the wound. This will not only prevent its cracking by the cold in winter pruning, but will keep out the air, and maintain the exposed wood in a sound state, until it is covered

* Ignorant cultivators frequently weaken the energies of young trees, and cause them to grow up with lean and slender stems, by injudiciously trimming off the young side shoots and leaves, in the growing season. By taking off these shoots, the stem is deprived of all the leaves which would attract and elaborate the sap, thus preparing nourishment for the growth of the stem; and the trunk of the tree does not increase in size half so fast as when the side branches are allowed to remain for a time, pruning them away gradually. It is better, in the case of these young trees, to *stop* the side branches when of moderate length by pinching out the terminal bud.

with a new layer of bark. Many compositions have been in fashion, abroad, for this purpose, which, under our summer sun and wintry frosts, are nearly worthless, as they generally crack and fall off in a single year. The following is a cheap and admirable application, which we recommend to all cultivators of fruit trees.

Composition for wounds made in pruning. Take a quart of alcohol and dissolve in it as much gum shellac as will make a liquid of the consistence of paint. Apply this to the wound with a common painter's brush; always paring the wound smoothly first with the knife. The liquid becomes perfectly hard, adheres closely, excludes the air perfectly, and is affected by no changes of weather; while at the same time its thinness offers no resistance to the lip of new bark that gradually closes over the wound. If the composition is kept in a well corked bottle, sufficiently wide mouthed to admit the brush, it will always be ready for use and suited to the want of the moment.

2. *Pruning to induce fruitfulness.*

When a young fruit tree is too luxuriant, employing all its energies in making vigorous shoots, but forming few or no blossom buds, and producing no fruit, we have it in our power by different modes of pruning to lessen this over-luxuriance, and force it to expend its energies in fruit-bearing. The most direct and successful mode of doing this is by pruning the roots, a proceeding recently brought into very successful practice by European gardeners.

Root pruning has the effect of at once cutting off a considerable supply of the nourishment formerly afforded by the roots of a tree. The leaves, losing part of their usual food, are neither able to grow as rapidly as before, nor to use all the nutritious matter already in the branches; the branches therefore become more stunted in their growth, the organizable matter accumulates, and fruit buds are directly formed. The energies of the tree are no longer entirely carried off in growth, and the returning sap is employed in producing fruit buds for the next year.

Root pruning should be performed in autumn or winter, and it usually consists in laying bare the roots and cutting off smoothly at a distance of a few feet from the trunk, (in proportion to the size of the tree) the principal roots. Mr. Rivers, an English nurseryman of celebrity, who has practised this mode with great success, digs a trench early in November, eighteen inches deep, round his trees to be root pruned, cutting off the roots with a sharp spade. By following this practice every year, he not only throws his trees into early bearing, but forces Apples, Pears, and the like, grafted on their own roots, to become prolific dwarfs, growing only six feet apart, trained in a

conical form, full of fruit branches, and producing abundantly. Those dwarf trees, thus annually root pruned, he supplies abundantly with manure at the ends of the roots, thus keeping up their health and vigour. The plan is an admirable one for small gardens, or for amateurs who wish to grow a great many sorts in a small surface. Mr. Rivers, in a pamphlet on this subject, enumerates the following among the advantages of *systematic root pruning.*

"1. The facility of thinning, (owing to the small size of the trees,) and, in some varieties, of setting the blossoms of shy-bearing sorts, and of thinning and gathering the fruit.

"2. It will make the gardener independent of the natural soil of his garden, as a few barrowsful of rich mould will support a tree for a lengthened period, thus placing bad soils nearly on a level with those the most favourable.

"3. The capability of removing trees of fifteen or twenty years' growth, with as much facility as furniture. To tenants this will indeed be a boon, for perhaps one of the greatest annoyances a tenant is subject to, is that of being obliged to leave behind him trees that he has nurtured with the utmost care."

In conclusion, Mr. Rivers recommends *caution;* "enough of vigour must be left in the tree to support its crop of fruit, and one, two, or three seasons' cessation from root pruning, will often be found necessary."

Root pruning in this country will, we think, be most valuable in its application to common standard trees, which are thrifty, but bear little or no fruit. They will generally be found to require but a single pruning to bring them into a permanently fruitful condition; and some sorts of Pears and Plums, which do not usually give a fair crop till they are twelve or fourteen years old, may be brought into fruit by this means as soon as they are of proper size. Several nearly full grown peach, pear, and plum trees, on a very rich soil on the Hudson, which were over-luxuriant but bore no fruit, were root pruned by our advice two years ago, and yielded most excellent and abundant crops last season.

In the case of Apple orchards, where the permanent value depends on the size, *longevity*, and continued productiveness of the trees, it is better to wait patiently and not resort to pruning to bring them into bearing; as it cannot be denied that all excessive pruning shortens somewhat the life of a tree. Mr. Coxe, indeed, recommended that the first fruit should never be allowed to ripen on a young apple orchard, as it lessens very materially the vigour of the trees.

Shortening-in the shoots of Peaches, Nectarines, and Apricots, as we shall hereafter point out, has a strong tendency to increase the fruitfulness of these trees, since by reducing the young wood, the sap accumulates in the remainder of the branch, and many

bearing shoots are produced instead of one. And the English practice of *spurring-in*, which consists in annually shortening the lateral shoots of trained Pears, Apples, and the like, in order to make them throw out short fruit branches, or spurs, is founded on the same principle.

Bending down the limbs is an easy and simple means of throwing such branches directly into fruit. By this means the circulation is retarded, rapid growth ceases, organizable matter accumulates, and fruit-buds, as before stated, surely follow. The limbs are bent, while flexible, in June or July, and tied down below a horizontal line until they retain of themselves their new position. When this can be easily applied, it is a never-failing mode of rendering such branches fruitful. It is stated in Loudon's Gardener's Magazine that "a very large crop of Pears was obtained by the Rev. Mr. Fisher, in Buckinghamshire, from trees which had not borne at all, by twisting and breaking down the young shoots, late in the autumn, when the wood had become tough; and the pendent branches afterwards continued perfectly healthy."

Disbarking and Ringing are two modes that have been recommended by some authors, but of which, except as curious experiments, we entirely disapprove. Disbarking, that is, removing the outer bark of the trunk in February, May, or March, is and may be practised with good results on trees in very sheltered positions, and under glass, but must always be a somewhat dangerous practice in open orchards, and in a variable climate like ours; while its good effects may in a great measure be attained by keeping the bark in a healthy state by a wash of soft soap. *Ringing*, which is nothing more than stopping the descending sap in a branch, and forcing it to organize blossom buds, by taking off a ring of bark, say a fourth or half an inch, near midsummer, is a mode always more or less injurious to the health of the branch, and if carried to any extent, finally destroys the tree. It is gradually falling into disuse, since root pruning, and other and better modes, are becoming known. A ligature or bandage tightly applied to the limb, will have temporarily the same effect as ringing, without so much injury to the branch.

Inducing fruitfulness by other means.

The influence of certain soils on the productiveness of fruit trees is a subject of every day observation, but the particular ingredients of the soil, which insure this abundant bearing, is not so well known. Limestone soils are almost invariably productive of all sorts of fruit; and certain strong loams in this country seem to be equally well adapted to this end.

In a curious work called the "Rejuvenescence of Plants," etc. by Dr. Schultz, of Berlin, the author, who has devoted consider-

able time to the subject, states that common salt and chloride of lime contribute greatly to the flowering of most plants, to which, however, they can only be applied, with safety, in small quantities. "Salts of lime," he continues, "appear to produce so nearly the same effect as those of potash and soda, that it is only necessary to place lime within their reach, if there is no deficiency of manure in the shape of general food. Lime will in the main promote, in an astonishing degree, the fruit and flowering of most plants, because calcareous salts promote evaporation and the concentration of sap."

Although we cannot coincide with many of Dr. Schultz's views as expressed in this work, yet the remarks just quoted agree so entirely with facts that have come under our own observation, that we gladly place them before the cultivator of fruit trees. One of the most productive fruit gardens in our knowledge is on a limestone soil, and another more than usually prolific, in a neighbourhood not very fruitful, is every year treated with a top dressing of coarse salt, at the rate of two bushels to the acre. These facts are surely worth the attention of growers, and should be the subject of more extended and careful experiments.

Rendering trees more fruitful by *dwarfing*, and by adapting them to soils naturally unfruitful by growing them upon other and better stocks, we have already placed before the reader under the head of *Grafting*.

CHAPTER IV.

TRAINING.

Training fruit trees is, thanks to our favourable climate, a proceeding entirely unnecessary in the greater part of the United States. Our fine dry summers, with the great abundance of strong light and sun, are sufficient to ripen fully the fruits of temperate climates, so that the whole art of training, at once the trial and triumph of skill with English fruit gardeners, is quite dispensed with: and in the place of long lines of brick wall and espalier rails, surrounding and dividing the fruit garden, all covered with carefully trained trees, we are proud to show the open orchard, and the borders in the fruit garden filled with thrifty and productive standards. Nothing surprises a British gardener more, knowing the cold of our winter, than the first sight of peaches, and other fine fruits, arriving at full perfection in the middle states, with so little care; and he sees at once that three fourths of the great expense of a fruit garden here is rendered entirely needless.

Training fruit trees, in this country, is therefore confined to

the colder districts north of the 43° of latitude, and to the gardens of amateurs. There can, however, scarcely be a more beautiful display of the art of the horticulturist, than a fine row of trained trees, their branches arranged with the utmost symmetry and regularity, and covered, in the fruit season, with large and richly coloured fruit.

North of the 43° latitude, (or north of the Mohawk,) the peach does not ripen well, and this, as well as some other rather tender trees, will, in such situations, generally yield abundant crops when trained on a common upright trellis, or espalier rail, seven or eight feet high.* Still farther north, as in Maine, or Canada, a wall must be resorted to: but our own observation leads us to believe that, generally, the espalier rail will be found not only cheaper, and more easily managed in training, but really preferable to a wall, as full exposure to light is sufficient without much additional heat. With regard to walls themselves, in the middle portions of the Union, a southern aspect is almost always the worst, being too hot in midsummer; a wall running north and south, and affording east and west aspects, is much the best. The western aspect is indeed preferable for all tender fruits, as the blossoms are not there liable to injury from early frosts. A north wall is useful for producing a later crop.

The objects of training are, by a more complete exposure of the leaves and branches to the light and sun, to ripen fruits in a naturally unfavourable climate; to render them more fruitful,—lessening vigour and excessive growth by the lateral or horizontal arrangement of the branches; and lastly economy of space, as trees when trained on a flat surface occupy much less space in the fruit garden than standards, and leave the borders more open for cropping with vegetables.

Training conical standards. A very easy and simple mode of training fruit trees, which has lately come into great favour with amateurs, is the conical standard, or *Quenouille*, (pronounced *kenool*) of the French. It is applied chiefly to pears, which, when treated in this way, may be planted about eight feet apart, and thus a great variety of sorts may be grown in a small garden. The best example of this kind of training in this country, at present, is in the garden of Mr. Johnson of Lynn, Mass. A great number of the specimen trees in the London Horticultural Society's garden are trained in this manner; and London remarks, that in 1840 the Royal Kitchen garden of Versailles contained two hundred trees trained in the conical manner, with the current year's shoots tied down *en quenouille*. "They had

* Cedar or locust posts, set four or eight feet apart, with horizontal bars let in, and crossed by light perpendicular straps of pine from six to twelve inches apart, will form an excellent and durable trellis for espaliers. See Fig. 21. Indeed many gardeners here prefer having a light trellis a few inches from the wall, upon which to train, instead of nailing directly on the wall.

attained the height of from six to twelve feet before the branches were bent down; but the effect of this was to cover the shoots with blossom buds, and to produce the most extraordinary crops."

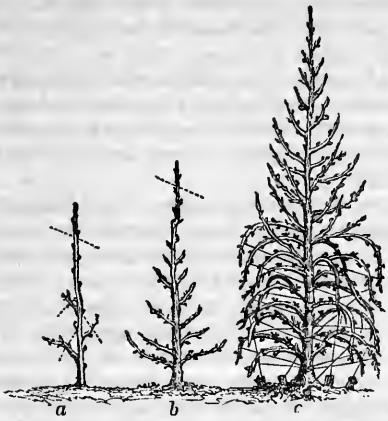


Fig. 16. Quenouille or conical training, progressive stages.

To produce Quenouille standards, plant a young tree, three or four feet high, and, after the first summer's growth, head back the top, and cut-in the side branches, as represented by the dotted lines, on *a*, Fig. 16. The next season the tree will shoot out three or four tiers of side branches, according to its strength. The lowest should be left about eighteen inches from the ground, and, by pinching off superfluous shoots, others may be made to grow pretty regularly, so as not to crowd the head. At the end of this season head back the leader as in *b*, to strengthen the side shoots. Next season a fresh series of lateral shoots will be produced, four or five of which may be kept every year; and the third or fourth year, the lower branches may be bent down in midsummer, *c*, and kept in a pendulous position for a year or two, by tying them to stakes driven in the ground, or to the main stem. This successive growth at the top, and arrangement of the limbs below, must be continued till the requisite height—say ten feet—is attained, when all the branches assuming their final form, the tree will resemble Fig. 17. A moderate pruning to produce new wood, and the occasional tying in of a rambling shoot, will be all that is required. The French quenouille training is performed with dwarf stocks, but the trees are more thrifty and durable when grafted on their own stocks, and kept within proper bounds by root pruning, after Mr. Rivers's method, explained in a previous page.

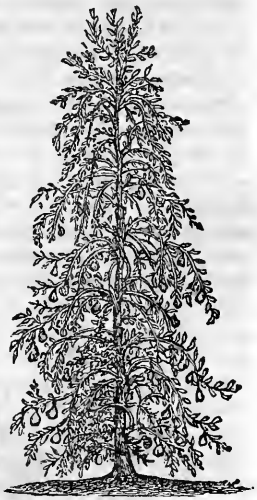


Fig. 17. Conical or Quenouille training, complete.

The two best modes of training for this country, on walls or espaliers, are fan-training, and horizontal training. The first is the simplest and easiest mode of training the Peach, the Apricot, Nectarine, and Cherry; and the latter is best adapted to the Pear. In training to a wall, the branches are fastened in their places by shreds of leather and nails; and, as espaliers, by tying them with slips of bass-matting to the rails of the trellis. The following account of these two modes of training is so concisely abridged from the practice of the best English gardens, in the Suburban Horticulturist, that we cannot do better than to place it before the reader.

Fan-training in the common English manner. A maiden plant (a tree but one year from the graft,) being planted "is to be headed down to four buds or eyes, placed in such a manner as to throw out two shoots on each side, as shown in Fig. 18. The following season the two uppermost shoots are to be headed down to three eyes, placed in such a manner as to throw out one leading shoot, and one shoot on each side; the two lowermost shoots are to be headed down to two eyes, so as to throw out one leading shoot, and one shoot on the uppermost side as shown in Fig. 19. We have now five leading shoots on each side, well placed, to form our future tree. Each of these shoots must be placed in the exact position in which it is to remain; and as it is these shoots which are to form the future tree, none of them are to be shortened. The tree should by no means be suffered to bear any fruit this year. Each shoot must now be allowed to produce, besides the leading shoot at its extremity, two other shoots on the uppermost side, one near to the bottom and one about midway up the stem; there must also be one shoot on the undermost side, placed about midway between the other two. All the other shoots must be pinched off in their infant state. The tree will then, assume, at the end of the third year, the appearance shown in Fig. 20. From this time it may be allowed to bear what crop of fruit the gardener thinks it able to carry; in determining which, he ought

Fig. 18. *Fan-training, first stage.*

Fig. 19. *Fan-training, second stage.*

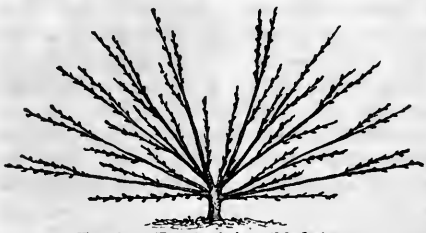


Fig. 20. *Fan-training, third stage.*

never to overrate the vigour of the tree. All of these shoots except the leading ones, must at the proper season be shortened, but to what length must be left entirely to the judgment of the gardener, it of course depending upon the vigour of the tree. In shortening the shoot, care should be taken to cut back to a wood bud that will produce a shoot for the following year. Cut close to the bud, so that the wound may heal the following season. The following year each shoot at the extremities of the leading branches should produce, besides the leading shoot, one on the upper and two on the under part, more or less, according to the vigour of the tree; whilst each of the secondary branches should produce besides the leading shoot, one other placed near to the bottom; for the grand art of pruning, in all systems to which this class of trees is subjected, consists in preserving a sufficient quantity of young wood at the bottom of the tree; and on no account must the gardener cut away clean any shoots so placed, without well considering if they will be wanted, not only for the present but for the future good appearance of the tree. The quantity of young wood annually laid in must depend upon

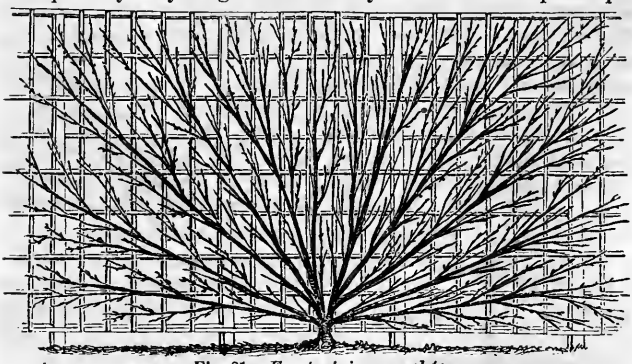


Fig. 21. *Fan-training complete.*

the vigour of the tree. It would be ridiculous to lay the same quantity into a weakly tree as into a tree in full vigour. The gardener here must use his own judgment. But if any of the leading shoots manifest a disposition to outstrip the others, a portion of young shoots must be laid in, and a greater quantity of fruit suffered to ripen on the over-vigorous branch. At the same time a smaller quantity of fruit than usual must be left to ripen on the weaker branch. This will tend to restore the equilibrium better than any other method. Fig. 21, presents us with the figure of a tree in a more advanced state well balanced, and well calculated for an equal distribution of the sap all over its surface. [We have varied this figure by representing it trained on a trellis, instead of a wall.] Whenever any of the lower shoots have advanced so far as to incommode the others, they

should be cut back to a yearling shoot; this will give them room, and keep the lower part of the tree in order. In nailing to a wall, care must be taken not to bruise any part of the shoot; the wounds made by the knife heal quickly, but a bruise often proves incurable. Never let a nail gall any part of the tree; it will endanger the life of the branch. In nailing-in the young shoots, dispose them as straight and regular as possible; it will look workman-like. Whatever system of training is pursued, the leading branches should be laid-in in the exact position they are to remain; for wherever a large branch is brought down to fill the lower part of the wall, the free ascent of the sap is obstructed by the extension of the upper, and contraction of the lower parts of the branch. It is thus robbed of part of its former vigour, while it seldom fails to throw out, immediately behind the parts most bent, one or more vigorous shoots."

Horizontal training consists in preserving an upright leader, with lateral shoots trained at regular intervals. These intervals may be from a foot to eighteen inches for pears and apples, and about nine inches for cherries and plums. "A maiden plant with three shoots having been procured, the two side shoots are laid in horizontally, and the centre one upright, as in Fig. 22; all the buds being rubbed off the latter but three, viz., one next the top for a vertical leader, and one on each side near the top, for horizontal branches. In the course of the first summer after planting, the shoots may be allowed to grow without being stopped. In the autumn of the first year the two laterals produced are nailed or tied in, and also the shoots produced from the extremities of the lower laterals; the centre shoot being headed down as before, as shown in Fig. 23. But in the second summer, when the main shoot has attained the length of ten or twelve inches, it may be stopped; which if the plant is in proper vigour, will cause it to throw out two horizontal branches, in addition to those which were thrown out from those of the preceding year. The tree will now be in its second summer, and will

Fig. 22. *Horizontal training, first stage.*

Fig. 23. *Horizontal training, second stage.*

Fig. 24. *Horizontal training, third stage.*

have four horizontal branches on each side of the upright stem as in Fig. 24; and by persevering in this system four horizontal branches will be produced in each year till the tree reaches the top of the wall (or espalier,) when the upright stem must terminate in two horizontal branches. In the following autumn the

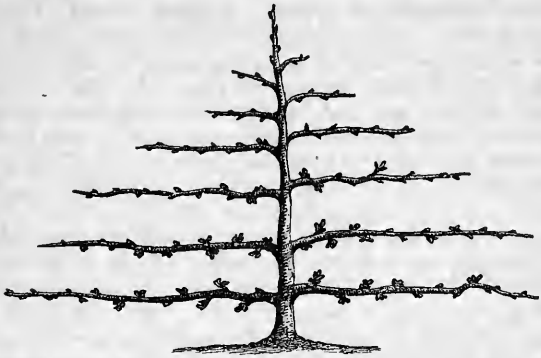


Fig. 25. *Horizontal training, fourth year.*

tree will have the appearance of Fig. 25."—*Suburban Horticul turist*, pp. 363 : 372.

Training fruit trees is nowhere in the United States practised to much extent except in the neighbourhood of Boston; and some of the best specimens of the foregoing methods in that neighbourhood are in the gardens of J. P. Cushing, Esq., Col. Perkins, and S. G. Perkins, Esq.

CHAPTER V.

TRANSPLANTING.

As nearly all fruit trees are raised first in nurseries, and then removed to their final position in the orchard or fruit garden; as upon the manner of this removal depends not only their slow or rapid growth, their feebleness or vigour afterwards, and in many cases even their life, it is evident that it is in the highest degree important to understand and practise well this *transplanting*.

The season best adapted for transplanting fruit trees is a matter open to much difference of opinion among horticulturists; a difference founded mainly on experience, but without taking into account variation of climate and soils, two very important circumstances in all operations of this kind.

All physiologists, however, agree that the best season for transplanting deciduous trees is in autumn, directly after the

fall of the leaf. The tree is then in a completely dormant state. Transplanted at this early season, whatever wounds may have been made in the roots commence healing at once, as a deposit directly takes place of granulous matter from the wound, and when the spring arrives the tree is already somewhat established, and ready to commence its growth. Autumn planting is for this reason greatly to be preferred in all mild climates, and dry soils; and even for very hardy trees, as the apple, in colder latitudes; as the fixed position in the ground, which trees planted then get by the autumnal and early spring rains, gives them an advantage, at the next season of growth, over newly moved trees.

On the other hand, in northern portions of the Union, where the winters commence early, and are severe, spring planting is greatly preferred. There, autumn and winter are not mild enough to allow this gradual process of healing and establishing the roots to go on; for when the ground is frozen to the depth of the roots of a tree, all that slow growth and connection of nutriment by the roots is necessarily at an end. And the more tender sorts of fruit trees, the Peach and Apricot, which are less hardy when newly planted than when their roots are entire, and well fixed in the soil, are liable to injury in their branches by the cold. The proper time, in such a climate, is as early as the ground is in a fit condition in the spring.

Early in autumn, and in spring before the buds expand, may as a general rule be considered the best seasons for transplanting. It is true that there are instances of excellent success in planting at all seasons, except midsummer; and there are many who, from having been once or twice successful in transplanting when trees were nearly in leaf, avow that to be the best season; not taking into account, that their success was probably entirely owing to a fortunately damp state of the atmosphere at the time, and abundant rains after the experiment was performed. In the middle states, we are frequently liable to a dry period in early summer, directly following the season of removal, and if transplanting is deferred to a late period in spring, many of the trees will perish from drought, before their roots become established in the soil. Spring planting should, therefore, always be performed as soon as possible, that the roots may have the great benefit of the early and abundant rains of that season, and get well started before the heat of summer commences. For the neighbourhood of New-York, therefore, the best periods are, from the fall of the leaf, to the middle of November, in autumn, and from the close of winter, to the middle of April, in the spring; though commonly, the seasons of removal are frequently extended a month beyond these limits.

Taking up the trees is an important part of the operation. A transplanter should never forget that it is by the delicate and tender points or extremities of the root that trees take up their

food; and that the chance of complete success is lessened, by every one of these points that is bruised or destroyed. If we could remove trees with every fibre entire, as we do a plant in a pot, they would scarcely show any sign of their change of position. In most cases, especially in that of trees taken from nurseries, this is, by the operation of removal, nearly impossible. But although we may not hope to get every root entire, we may, with proper care, preserve by far the larger portion of them, and more particularly the small and delicate fibres. After being taken up, they should be planted directly; or, if this cannot be done, they should be kept from drying by a covering of mats, and when sent to a distance by being packed in damp moss.*

Preparing the places. Here is the fatal stumbling block of all novices and ignorant persons in transplanting. An English gardener, when he is about to plant fruit trees, talks about *preparing his borders*, an American says he will *dig his holes;* and we cannot give a more forcible illustration of the ideas of two persons as to the wants of a fruit tree, or a better notion of the comparative provision made to supply these wants, than by contrasting the two phrases themselves. The one looks upon a tree as a living being, whose life is to be rendered long, vigorous, and fruitful by a good supply of food, and a soil mellow and easily penetrated by the smallest fibre; the other considers it very much in the light of a truncheon or a post, which he thrusts into the smallest possible hole, and supplies with the least portion of manure, trusting to what he seems to believe the inextinguishable powers of nature to make roots and branches under any circumstances. It is true that the terms differ somewhat from the nature of the culture and the greater preparation necessary in planting fruit trees in England, but this is not by any means sufficient to justify the different modes of performing the same operation there and here.

In truth, in this country, where the sun and climate are so favorable, where pruning and training are comparatively so little necessary, the great requisite to success in the ordinary culture of fruit trees is the *proper preparation of the soil* before a tree is planted. Whether a transplanted tree shall struggle several years to recover, or grow moderately after a short time, or at once start into a very luxuriant and vigorous growth, depends entirely upon the amount of care and labour the planter is willing to bestow on the soil for his trees. We have seen several instances where, side by side, one man planted his trees in large spaces of deeply moved and rich soil, and another in

* We should notice an important exception to this in the case of trees packed for shipping across the Atlantic. In this case they should be packed only in *dry* moss; the moisture of the sea air being sufficient to keep the roots in good condition, while if packed in damp moss they will be injured by rotting or excessive growth.

small holes in the common mode, which uniformly showed the trees of the first, larger after five years, than those of the last after twelve.

No fruit tree should be planted in a hole of less size than three feet square, and eighteen inches to two feet deep. To this size and depth the soil should be removed and well pulverized, and it should if necessary be properly enriched by the application of manure, which must be thoroughly mixed with the whole mass of prepared soil by repeated turnings with the spade. This preparation will answer, but the most skilful cultivators among us make their spaces four or five feet in diameter, or three times the size of the roots, and it is incredible how much the luxuriance and vigour of growth, even in a poor soil, is promoted by this. No after mending of the soil, or top dressings applied to the surface, can, in a climate of dry summers like ours, equal the effects of this early and deep loosening and enriching the soil. Its effects on the growth and health of the tree are permanent, and the little expense and care necessary in this preparation is a source of early and constant pleasure to the planter. This preparation may be made just before the tree is planted, but in heavy soils it is much better to do it several months previously; and no shallow ploughing of the soil can obviate the necessity and advantages of the practice, where healthy, vigorous orchards or fruit gardens are desired.

The whole art of transplanting, after this, consists in placing the roots as they were before, or in the most favourable position for growth. Begin by filling the hole with prepared soil, within as many inches of the top as will allow the tree to stand exactly as deep as it previously stood. With the spade, shape the soil for the roots in the form of a little hillock on which to place the roots—and not, as is commonly done, in the form of a hollow; the roots will then extend in their natural position, not being forced to turn up at the ends. Next examine the roots, and cut off all wounded parts, paring the wound smooth. Hold the tree upright on its little mound in the hole of prepared soil; extend the roots, and cover them carefully with the remaining pulverized soil. As much of the success of transplanting depends on bringing the soil in contact with every fibre, so as to leave no hollows to cause the decay of the roots, not only must this be secured by patiently filling-in all cavities among the roots, but when the trees are not quite small, it is customary to pour in a pail of water when the roots are nearly all covered with soil. This carries the liquid mould to every hidden part. After the water has settled away, fill up the hole, pressing the earth gently about the tree with the foot, but avoiding the common practice of shaking it up and down by the stem. In windy situations it will be necessary to place a stake by the side of each tree to hold it upright, until it shall have taken firm root in the soil, but it is not needful in ordinary cases.

Avoid deep planting. More than half the losses in orchard planting in America arises from this cause, and the equally common one of crowding the earth too tightly about the roots. No tree should be placed deeper than it formerly grew, as its roots are stifled from the want of air, or starved by the poverty of the soil at the depth where they are placed. It is much the better and more natural process in fact to plant the tree so that it shall, when the whole is complete, appear just as deep as before, but standing on a little mound two or three inches higher than the level of the ground about. This, when the mound settles, will leave it nearly on the level with the previous surface.

Mulching is an excellent practice with transplanted trees, and more especially for those which are removed late in the spring. Mulching is nothing more than covering the ground about the stems with coarse straw, or litter from the barn-yard, which by preventing evaporation keeps the soil from becoming dry, and maintains it in that moist and equable condition of temperature most favourable to the growth of young roots. Very many trees, in a dry season, fail at midsummer, after having made a fine start, from the parched and variable condition of the earth about the roots. Watering frequently fails to save such trees, but mulching when they are planted will entirely obviate the necessity of watering in dry seasons, and promote growth under any circumstances. Indeed watering upon the surface, as commonly performed, is a most injurious practice, as the roots, stimulated at one period of the day by water, are only rendered more susceptible to the action of the hot sun at another, and the surface of the ground becomes so hard, by repeated watering, that the beneficial access of the air is almost cut off. If trees are well watered in the holes, while transplanting is going on, they will rarely need it again, and we may say *never*, if they are well mulched directly after planting.

The best manure to be used in preparing the soil for transplanting trees is a compost formed of two thirds muck or black peat earth, reduced by fermenting it several months in a heap with one-third fresh barn-yard manure. Almost every farm will supply this, and it is more permanent in its effects, and less drying in its nature, than the common manure of the stable. An admirable manure recently applied with great success, is charcoal—the small broken bits and refuse of the charcoal pits—mixed intimately with the soil. Air-slaked lime is an excellent manure for fruit trees in soils that are not naturally calcareous. Two or three handfuls may be mixed with the soil when preparing each space for planting, and a top dressing may be applied with advantage occasionally afterwards, to increase their productiveness. But wherever large orchards or fruit gardens are to be planted, the muck compost heap should be made ready beforehand, as it is the cheapest, most valuable, and durable of all manures for fruit trees.

Pruning the heads of transplanted trees, at the season of removal, we think generally an injurious practice. It is certainly needless and hurtful in the case of small trees, or those of such a size as will allow the roots to be taken up nearly entire; for, as the action of the branches and the roots is precisely reciprocal, and as new roots are rapidly formed just in proportion to the healthy action of the leaves, it follows that by needlessly cutting off branches we lessen the vital action of the whole tree. At the same time, where trees are transplanted of so large a size that some of the roots are lost in removing them, it is necessary to cut back or shorten a few of the branches—as many as will restore the balance of the system—otherwise the perspiration of the leaves may be so great, as to exhaust the supply of sap faster than the roots can collect it. A little judgment only is necessary, to see at a glance, how much of the top must be pruned away before planting the tree, to equalize the loss between the branches and the roots.

When it is necessary to transplant fruit trees of large size, the best practice is to prepare them previously by digging a trench round the whole mass of roots, undermining them, and cutting off all roots projecting beyond this line. The trench should be dug at such a distance from the tree as will include all the large and sufficient ball of roots, and it should be done in the spring, or before midsummer, when it is desirable to remove the tree the next year. After all the roots that extend to this circular trench are cut off, the earth is replaced, and by the season following an abundance of small fibres is sent out by the amputated roots, which, when the whole is now removed, will insure the success and speedy growth of the tree. This is more completely the case when the tree is prepared two years before transplanting. A variation of this mode, which has been found quite as successful and less laborious, consists in leaving the trench open, and covering it with boards only, or boards with a top layer of turf. The tree then is somewhat checked in its growth, it throws out an abundance of small fibres into the ball of earth containing the roots, and is the next season transplanted with great ease and safety.

The proper size for transplanting varies somewhat with the sort of tree, and the kind of culture intended. It is, however, a maxim equally well settled, both among theorists and the best practical men, that health, immediate vigour, and duration, are all greatly promoted by transplanting fruit trees of small size—from three to six or seven feet. We are fully aware with what impatience the beginner, or a person who knows little of the culture of trees, looks upon trees of this size—one who is eager to plant an orchard, and stock a garden with large trees, thinking to *gather a crop the next year*. The latter may indeed be done, but the transplanting so affects the tree, that its first scanty crop

is followed by a long season of rest and feeble growth, while the plantation of young trees is making wood rapidly, and soon comes into a healthy and long-continued state of productiveness—often long indeed before the large trees have fairly arrived at that condition. The small tree, transplanted with its system of roots and branches entire, suffers little or no check; the older and larger tree, losing part of its roots, requires several years to resume its former vigour. The constitution of the small tree is healthy and unimpaired; that of the large is frequently much enfeebled. A stout and vigorous habit—what the nurserymen call a *good stocky plant*—is the true criterion of merit in selecting fruit trees for transplanting.

Trees intended for orchards, being often more exposed than those in gardens, should be somewhat larger—not less than six, or more than eight feet is the best size. For gardens, all experienced cultivators agree that a smaller size is preferable; we prefer plants two years old from the graft. Most gardeners abroad, when they select trees with more than usual care, take what are called maiden plants—those one year old from the graft, and there can be no doubt that, taking into account health, duration, and the ease with which such a tree can be made to grow into any form, this is truly the preferable size for removal into a fruit garden. But we are an impatient people, and it is not till after another century of trial and experience in the culture of fruit trees, that cultivators generally in this country will become aware of the truth of this fact.

The facility with which the different fruit trees may be transplanted differs considerably. Plums are generally removed with most success, and after them nearly in the order as follows: Quinces, Apples, Pears, Peaches, Nectarines, Apricots, and Cherries; the latter succeeding with some difficulty, when of large size.

Laying in by the heels is a practice adopted as a temporary kind of planting, when a larger quantity of trees is at hand than can be set out immediately. A trench is opened, and the roots are laid in and covered with soil, the tops being previously placed in a sloping position, inclining to within a few feet of the surface. In this way they are kept fresh and in good order, until it is convenient to plant them finally. In northern districts, where the autumn is often too severe for planting, and the spring is frequently too late to receive trees in time from nurseries farther south, it is a common and successful mode to procure trees in autumn, and lay them in by the heels until spring, covering over the tops of the more tender sorts if necessary with coarse litter.

In planting an orchard, always avoid placing the trees in the same spot, or near where an old tree stood before. Experience has taught us that the growth of a young tree, in such a position, is weak and feeble; the nourishment suitable to that kind

of tree having already been exhausted by a previous growth, and the soil being half filled with old and decayed roots which are detrimental to the health of the young tree.

CHAPTER VI.

THE POSITION OF FRUIT TREES. SOIL AND ASPECT.

In our favourable climate many fruit trees will thrive and produce some fruit in almost any soil, except dry sand, or wet swamps. But there is much to be gained in all climates by a judicious selection of soil, when this is in our power, or by that improvement which may generally be effected in inferior soils, where we are necessarily limited to such. As we shall, in treating the culture of each genus of fruit, state more in detail the soils especially adapted to its growth, our remarks here will be confined to the subject of soils generally, for the orchard and fruit garden.

The soils usually selected for making plantations of fruit trees may be divided into light sandy loams, gravelly loams, strong loams, and clayey loams; the first having a large proportion of sand, and the last a large proportion of clay.

The soil most inviting to the eye is a *light sandy loam*, and, as it is also a very common soil, more than half the fruit gardens in the country are composed of this mould. The easy manner in which it is worked, owing to its loose and very friable nature, and the rapidity with which, from its warmth, crops of all kinds come into bearing, cause it to be looked upon with almost universal favour. Notwithstanding this, a pretty careful observation, for several years, has convinced us that a light sandy soil is, on the whole, the worst soil for fruit trees. Under the bright skies of July and August, a fruit tree requires a soil which will retain and afford a moderate and continued supply of moisture, and here the sandy soil fails. In consequence of this the vigour of the tree is checked, and it becomes feeble in its growth, and is comparatively short-lived, or unproductive. As a tree in a feeble state is always most liable to the attacks of insects, those on a sandy soil are the first to fall a prey to numerous maladies.* The open loose texture of a sandy soil, joined to its warmth, affords an easy passage, and an excellent habitation for all insects that pass part of their lives in the ground, preparatory to

* This remark applies to the middle and southern portions of this country. North of the 43° a light sandy soil is perhaps preferable as warmer and earlier.

rising out of it to attack the fruit, foliage, or branches of the tree.

Such are some of the disadvantages of a light sandy soil; and, in thoroughly examining many of the fruit gardens of the middle states the last few seasons, we could not fail to be struck with the fact that in nine cases out of ten, where a variety of fruit was unusually liable to disease, to blight, or to the attacks of certain fruit-destroying insects, as the curculio, the trees themselves were on sandy soils; while on the other hand, and frequently in the same neighbourhood, the same sorts were growing luxuriantly and bearing abundant crops, where the soil was a rather strong loam.* For a few years, the growth and productiveness of the trees upon sandy soil, is all that can be desired; but the trees are shorter lived and sooner fall into decay than where the soil is stronger. If there is any exception to this rule, it is only in the case of the Peach, and judging from the superiour flavour of this fruit on stronger soils, we are inclined to doubt the value of the exception even here.

Gravelly loams are frequently much better adapted for orchards than sandy, especially where the loam is of a strong quality, and the gravel is not in excess; and the hardier fruits usually do well on this kind of soil.

Strong loams, by which we mean a loam with only just a sufficient portion of sand to make it easily worked, are on the whole by far the best for fruit gardens in this country. A strong loam is usually a deep soil, and affords during the whole heat of summer, a proper supply of moisture and nourishment to the roots of trees. Fruit trees do not come into a bearing state so soon in a strong as in a sandy loam, because the growth of wood is more vigorous, and fruit buds are not so soon formed; but they bear larger crops, are much less liable to many diseases, and their longevity is much greater. The largest and most productive orchards of the apple and pear in this country are upon soils of this kind.

Clayey loams are, when well drained, and when the clay is not in excess, good fruit soils—they are usually strong and deep soils though rather heavy and difficult to work. Trees that will flourish on these soils, such as the Apple, Pear, Cherry, Plum, and Apricot, usually are very free from disease, or insects, and bear large crops. In a moist climate, like that of England, fruit trees on a clayey loam would die of canker, brought on by the excessive quantity of water contained in the soil, but such is

* As an instance in point, the owner of one of the most highly cultivated gardens in the vicinity of Boston was showing us, in despair, some trees of the Seckel pear upon which he could no longer get good crops, or fair fruit, and lamenting the *degeneracy* of the sort. The next day we saw in a neighbouring garden beautiful crops of this pear growing with the least possible care. The garden in the first case was a light sandy loam; in the second, a strong loam.

not the case under the high and warm temperature of our summers. The finest, largest, and most productive Plums and Pears within our knowledge, grow in sites on the North river, when the soil is a stiff clayey loam, almost approaching a clay. Those fruits that on light sandy soils are almost worthless from their liability to disease, and the attacks of insects, are here surprisingly luxuriant and fruitful.

It is, however, well to remark, that some varieties of fruit, perhaps from the circumstances of their origin, succeed better on sandy soils than any other; thus the Newtown pippin will only arrive at perfection in a strong loam, while the Yellow Bellflower is finer when grown on a sandy soil. But there are exceptions to all rules, and what we have already stated, as to the relative quality of soils, will apply pretty generally to the whole of this country south of the Mohawk river; and it may be added that calcareous soils, of whatever texture, are better than soils of the same quality where no limestone is present.

Trenching is the most complete method of improving a soil too sandy, when the subsoil below is of a loamy or clayey nature. Deep subsoil ploughing, by bringing up a sufficient quantity of the stratum below, will answer the same purpose. When the subsoil of a sandy soil is sand or gravel, the surface can only be improved by top dressings, or the application of manures. Top-dressing with clay is the most simple means of changing the nature of such a soil, and it is surprising how moderate a quantity of clay will give a closer texture to light sandy soils. In manuring such soils, we may greatly improve their nature as well as condition, by using composts of peat or bog earth, swamp muck, or river mud, instead of common barn-yard or stable manure. The former are not only more permanent and better as manures for fruit trees, but they gradually consolidate and improve the whole texture of the soil.

Indeed no fruit garden, where the soil is not naturally deep and rich, is in *perfect* condition for planting trees, unless the soil has been well trenched two spades in depth. This creates a matrix for the roots, so deep and permanent, that they retain their vigour and luxuriance through the droughts of summer, and continue for a long time in a state of health and productiveness.

It is difficult to give any precise rules as to *aspect*. We have seen fine fruit gardens here in all aspects. Perhaps the very best aspect, on the whole, is a gentle slope to the southwest, because in such positions the trees, when in blossom, are somewhat protected from the bad effects of a morning sun after spring frosts. But, to remedy this more perfectly, it is sometimes the practice to plant on the north sides of hills, and this is an effectual way where early frosts are fatal, and where the season is long and warm enough to ripen the fruit in any exposure. A

fine south slope, is, south of New York, frequently found too warm for many fruit trees, in soils that are light and dry.

Deep vallies, with small streams of water, are the worst situations for fruit trees, as the cold air settles down in these vallies in a calm frosty night, and buds and blossoms are very frequently destroyed. We know a rich and fertile valley of this kind in Connecticut where the Cherry will scarcely grow, and a crop of the Apple, or the Pear, is not obtained once in ten years; while the adjacent hill tops and high country, a couple or three miles distant, yield abundant crops annually. On the other hand the borders of large rivers, as the Hudson, or of some of our large inland lakes, are the most favourable situations for fruit trees, as the climate is rendered milder by large bodies of water. In the garden where we write, a fourth of a mile from the Hudson, we have frequently seen ice formed during the night, of the thickness of a dollar, when the blossoms of the Apricot were fully expanded, without doing the least harm to that tender fruit. This is owing to the slight fog rising from the river in the morning, which softening the rays of the sun, and dissolving gradually the frost, prevents the injurious effects of sudden thawing. At the same time, a couple of miles from the shores, this fruit will often be quite destroyed. In short, the season on the lower half of the Hudson, may, from the ameliorating influence of the river, be said to be a month longer—a fortnight earlier in spring, and later in autumn, than in the same latitude a few miles distant; and crops of the more tender fruits are, therefore, much more certain on the banks of large rivers or lakes, than in inland districts of the same climate.

CHAPTER VII.

GENERAL REMARKS ON INSECTS.

The insects injurious to fruit trees are numerous, and to combat them successfully requires a minute acquaintance with their character and habits. While considering the culture of each class of fruit in the succeeding pages, we shall point out the habits, and suggest means of destroying the most important of these insects; but in the meantime, we wish to call attention to some general practical hints on this subject.

In the first place, we cannot too strongly impress upon the attention of the fruit grower the importance of watching carefully, and making an early attack, upon every species of insect. It is only necessary to look for a moment at the astonishing rapid-

ity with which many kinds of insects increase, if allowed to get well established in a garden, to become fully aware of this. The common caterpillars are the young of moths or butterflies, and that careful observer of the habits of insects, Dr. Harris, says as each female lays from two to five hundred eggs, a thousand moths or butterflies will, on the average, produce three hundred thousand caterpillars; if one half this number, when arrived at maturity, are females, they will give forty-five millions of caterpillars in the second, and six thousand seven hundred and fifty millions in the third generation.* To take another example the *aphides*, or plant lice, which are frequently seen in great numbers on the tender shoots of fruit trees have an almost incredibly prolific power of increase,—the investigations of Réaumur having shown that one individual, in five generations, may become the progenitor of nearly six thousand millions of descendants. With such surprising powers of propagation, were it not for the havoc caused among insects by various species preying upon each other, by birds, and other animals, and especially by unfavourable seasons, vegetation would soon be entirely destroyed by them. As it is, the orchards and gardens of careless and slovenly cultivators are often overrun by them, and many of the finest crops suffer great injury, or total loss, from the want of a little timely care.

In all well managed plantations of fruit, at the first appearance of any injurious insect, it will be immediately seized upon and destroyed. A few moments in the first stage of insect life—at the first birth of the new colony—will do more to rid us for the season, of that species, than whole days of toil after the matter has been so long neglected that the enemy has become well established. We know how reluctant all, but the experienced grower, are to set about eradicating what at first seems a thing of such trifling consequence. But such persons should consider that whether it is done at first, or a fortnight after, is frequently the difference between ten and ten thousand. A very little time, regularly devoted to the extirpation of noxious insects, will keep a large place quite free from them. We know a very large garden, filled with trees, and always remarkably free from insect ravages, which, while those even in its vicinity suffer greatly, is thus preserved, by half an hour's examination of the whole premises two days in the week during the growing season. This is made early in the morning, the best time for the purpose, as the insects are quiet while the dew is yet upon the leaves, and whole races, yet only partially developed, may be swept off in a single moment. In default of other more rapid expedients, the old mode of *hand-picking*, and crushing or burning, is the safest and surest that can be adopted.

* For much valuable information on the habits of insects injurious to vegetation, see the Treatise on the Insects of Massachusetts, by Dr. T. W. Harris, Cambridge.

For practical purposes, the numerous insects infesting fruit trees may be divided into four classes; 1st, those which for a time harbour in the ground and may be attacked in the soil; 2d, winged and other species, which may be attacked among the branches; 3d, aphides, or plant lice which infest the young shoots; 4th, moths, and all night-flying insects.

Insects, the larvæ or grubs of which harbour in the ground during a certain season, as the curculio or plum-weevil, are all more or less affected by the application of common salt as a top dressing. On a larger scale—in farm crops—the ravages of the cut-worm are frequently prevented by sowing three bushels of salt to the acre, and we have seen it applied to all kinds of fruit grounds with equal success. Salt seems to be strongly disagreeable to nearly all this class of insects, and the grubs perish, where even a small quantity has for two or three seasons been applied to the soil. In a neighbourhood where the peach worm usually destroys half the peach trees, and where whole crops of the plum are equally a victim to the plum-weevil, we have seen the former preserved in the healthiest condition by an annual application of a small handful of coarse salt about the collar of the tree at the surface of the ground; and the latter, made to hold abundant crops, by a top dressing applied every spring of packing salt, at the rate of a quart to the surface occupied by the roots of every full grown tree.

Salt, being a powerful agent, must be applied for this purpose with caution and judgment. In small quantities it promotes the verdure and luxuriance of fruit trees, while if applied very frequently, or too plentifully, it will certainly cause the death of any tree. Two or three years top-dressing in moderate quantity will usually be found sufficient to drive away these insects, and then the application need only be repeated once in two or three seasons. Any coarse, refuse salt will answer the purpose; and packing salt is preferable to that of finer quality, as it dissolves slowly by the action of the atmosphere.

In the winged state, most small insects may either be driven away by powerful odours, or killed by strong decoctions of tobacco, or a wash of diluted whale-oil or other strong soap. Attention has but recently been called to the repugnance of all insects to strong odours, and there is but little doubt that before a long time, it will lead to the discovery of the means of preventing the attacks of most insects by means of strong smelling liquids or odorous substances. The moths that attack furs, as every one knows, are driven away by pepper-corns or tobacco, and should future experiments prove that at certain seasons, when our trees are most likely to be attacked by insects, we may expel them by hanging bottles or rags filled with strong smelling liquids in our trees, it will certainly be a very simple and easy way of ridding ourselves of them. The brown scale, a trouble-

some enemy of the orange tree, it is stated in the *Gardener's Chronicle*, has been destroyed by hanging plants of the common chamomile among its branches. The odour of the coal tar of gas works is exceedingly offensive to some insects injurious to fruits, and it has been found to drive away the wire worm, and other grubs that attack the roots of plants. The vapour of oil of turpentine is fatal to wasps, and that of tobacco smoke to the green fly. Little as yet is certainly known respecting the exact power of the various smells in deterring insects from attacking trees. What we do know, however, gives us reason to believe that much may be hoped from experiments made with a variety of powerful smelling substances.

Tobacco water, and diluted whale oil soap, are the two most efficient remedies for all the small insects which feed upon the young shoots and leaves of plants. Tobacco water is made by boiling tobacco leaves, or the refuse stems and stalks of the tobacco shops. A large pot is crowded full of them, and then filled up with water, which is boiled till a strong decoction is made. This is applied to the young shoots and leaves with a syringe, or, when the trees are growing in nursery rows, with a common white-wash brush; dipping the latter in the liquid and shaking it sharply over the extremities or the infested part of each tree. This, or the whale oil soap-suds, or a mixture of both, will kill every species of plant lice, and nearly all other small insects to which young trees are subject.

The wash of whale oil soap is made by mixing two pounds of this soap, which is one of the cheapest and strongest kinds, with fifteen gallons of water. This mixture is applied to the leaves and stems of plants with a syringe, or in any other convenient mode, and there are few of the smaller insects that are not destroyed or driven away by it. The merit of this mixture belongs to Mr. David Haggerston, of Boston, who first applied it with great success to the roses lug, and received the premium of the Massachusetts Horticultural Society for its discovery. When this soap cannot be obtained, a good substitute may be made by turning into soap the lees of common oil casks, by the application of potash and water in the usual way.

Moths and other insects which fly at night are destroyed in large numbers by the following mode, first discovered by Victor Adouin, of France. A flat saucer or vessel is set on the ground in which is placed a light, partially covered with a common bell glass besmeared with oil. All the small moths are directly attracted by the light, fly towards it, and, in their attempts to get at the light, are either caught by the glutinous sides of the bell glass, or fall into the basin of oil beneath, and in either case soon perish. M. Adouin applied this to the destruction of the *pyralis*, a moth that is very troublesome in the French vineyards; with two hundred of these lights in a vineyard of four

acres, and in a single night, 30,000 moths were killed and found dead on or about the vessels. By continuing his process through the season, it was estimated that he had destroyed female moths sufficient to have produced a progeny of over a million of caterpillars. In our orchards, myriads of insects may be destroyed by lighting small bonfires of shavings, or any refuse brush; and in districts where the apples are much worm-eaten, if repeated two or three nights at the proper season, this is a very efficient and cheap mode of getting rid of the moth which causes so much mischief. Dr. Harris, knowing how important it is to destroy the caterpillar in the moth state, has recommended flambeaux, made of tow wound round a stake and dipped in tar, to be stuck in the fruit garden at night and lighted. Thousands of moths will find a speedy death, even in the short time which these flambeaux are burning. The melon-bug may be extirpated by myriads, in the same way,

A simple and most effectual mode of ridding the fruit garden of insects of every description, which we recommend as a general extirpator, suited to all situations, is the following. Take a number of common bottles, the wider mouthed the better, and fill them about half full of a mixture of water, molasses, and vinegar. Suspend these among the branches of trees, and in various parts of the garden. In a fortnight they will be found full of dead insects, of every description not too large to enter the bottles—wasps, flies, beetles, slugs, grubs, and a great variety of others. The bottles must now be emptied, and the liquid renewed. A zealous amateur of our acquaintance, caught last season in this way, *more than three bushels* of insects of various kinds; and what is more satisfactory, preserved his garden almost entirely against their attacks in any shape.

The assistance of birds in destroying insects should be duly estimated by the fruit-grower. The quantity of eggs and insects in various states, devoured annually by birds, when they are encouraged in gardens, is truly surprising. It is true that one or two species of these, as the ring-tail, annoy us by preying upon the earlier cherries, but even taking this into account, we are inclined to believe that we can much better spare a reasonable share of a few fruits, than dispense with the good services of birds in ridding us of an excess of insects.

The most serviceable birds are the common sparrows, the wren, the red-breast, and, in short, most of the birds of this class. All these birds should be encouraged to build nests and inhabit the fruit garden, and this may most effectually be done by not allowing a gun to be fired within its boundaries. The introduction of hedges or live fences, greatly promotes the domestication of birds, as they afford an admirable shelter for their nests. Our own gardens are usually much more free from insects than those a mile or two distant, and we attribute this in part to our practice

of encouraging birds, and to the thorn and arbor vitæ hedges growing here, and which are greatly resorted to by those of the feathered tribe which are the greatest enemies of the insect race.

Among animals, the *toad* and the *bat* are great insect destroyers. The common bat lives almost entirely upon them, and in its evening sallies devours a great number of moths, beetles, weevils, etc.; and the toad quietly makes away with numberless smaller insects.

CHAPTER VIII.

THE APPLE.

Pyrus Malus, L. Rosaceæ, of botanists.
Pommier, of the French; *Apfelbaum*, German; *Apfel*, Dutch; *Melo pomo*, Italian; and *Manzana*, Spanish.

The Apple is the world-renowned fruit of temperate climates. From the most remote periods it has been the subject of praise among writers and poets, and the old mythologies all endow its fruit with wonderful virtues. The allegorical tree of knowledge bore apples, and the celebrated golden fruit of the orchards of Hesperus, guarded by the sleepless dragon which it was one of the triumphs of Hercules to slay, were also apples, according to the old legends. Among the heathen gods of the north, there were apples fabled to possess the power of conferring immortality, which were carefully watched over by the goddess Iduna, and kept for the especial dessert of the gods who felt themselves growing old! As the mistletoe grew chiefly on the apple and the oak, the former tree was looked upon with great respect and reverence by the ancient Druids of Britain, and even to this day, in some parts of England, the antique custom of saluting the apple trees in the orchards, in the hope of obtaining a good crop the next year, still lingers among the farmers of portions of Devonshire and Herefordshire. This old ceremony consists of saluting the tree with a portion of the contents of a wassail bowl of cider, with a toast in it, by pouring a little of the cider about the roots, and even hanging a bit of the toast on the branches of the most barren, the farmer and his men dancing in a circle round the tree, and singing rude songs like the following:

"Here's to thee, old apple tree,
Whence thou mayst bud, and whence thou mayst blow;
And whence thou mayst bear apples enow,
Hats full! caps full—
Bushels and sacksfull!
Huzza!"

The species of crab from which all our sorts of Apples have originated, is wild in most parts of Europe. There are indeed two or three kinds of wild crab belonging to this country; as the *Pyrus coronaria*, or sweet scented crab, with fruit about an inch in diameter, grows in many parts of the United States; and the wild crab of Oregon, *P. rivularis*, bearing a reddish yellow fruit about the size of a cherry, which the Chenook Indians use as an article of food; yet none of our cultivated varieties of apple have been raised from these native crabs, but from seeds of the species brought here by the colonists from Europe.

The Apple tree is, however, most perfectly naturalized in America, and in the northern and middle portions of the United States succeeds as well, or, as we believe, better than in any part of the world. The most celebrated apples of Germany and the north of Europe, are not superiour to many of the varieties originated here, and the American or Newtown Pippin is now pretty generally admitted to be the finest apple in the world. No better proof of the perfect adaptation of our soil and climate to this tree can be desired, than the seemingly spontaneous production of such varieties as this, the Baldwin, the Spitzenburg, or the Swaar—all fruits of delicious flavour and great beauty of appearance.

The Apple is usually a very hardy and rather slow growing fruit tree, with a low spreading, rather irregular head, and bears an abundance of white blossoms tinged with red. In a wild state it is very long-lived, but the finest garden sorts usually live about fifty or eighty years; though by proper care, they may be kept healthy and productive much longer. Although the apple generally forms a tree of medium growth, there are many specimens in this country of enormous size. Among others we recollect two in the grounds of Mr. Hall, of Rayanham, Rhode Island, which, ten years ago, were 130 years old; the trunk of one of these trees then measured, at one foot from the ground, thirteen feet two inches, and the other twelve feet two inches. The trees bore that season about thirty or forty bushels, but in the year 1780 they together bore one hundred and one bushels of apples. In Duxbury, Plymouth county, Mass., is a tree which in its girth measures twelve feet five inches, and which has yielded in a single season 121½ bushels.

Uses of the apple. No fruit is more universally liked or generally used than the apple. It is exceedingly wholesome, and, medicinally, is considered cooling, and laxative, and useful in all inflammatory diseases. The finest sorts are much esteemed for the dessert, and the little care required in its culture, renders it the most abundant of all fruits in temperate climates. As the earliest sorts ripen about the last of June, and the latest can be preserved until that season, it may be considered as a fruit in perfection the whole year. Besides its merits for the

dessert, the value of the apple is still greater for the kitchen, and in sauces, pies, tarts, preserves, and jellies, and roasted and boiled, this fruit is the constant and invaluable resource of the kitchen. *Apple butter*, made by stewing pared and sliced sweet apples in new cider until the whole is soft and pulpy, is a common and excellent article of food in many farmers' families, and is frequently made by the barrel, in Connecticut. In France, nearly the same preparation is formed by simmering apples in new wine, until the whole becomes a sort of marmalade, which is called *Raisiné*. The juice of the apple unfermented, is, in some parts of the country, boiled down till it becomes molasses. When fermented it forms *cider*, and if this is carefully made from the best cider apples, it is nearly equal to wine; in fact many hundreds of barrels, of the cider of New-Jersey, have been manufactured in a single year, into an imitation Champagne, which is scarcely distinguished by many from that made from the grape.

Dried apples are also a considerable article of commerce. Farmers usually pare and quarter them by hand, and dry them in the sun; but those who pursue it as a matter of trade pare them by machinery, and dry them slowly in ovens. They are then packed in bags or barrels, and are used either at home, in sea stores, or are exported.

In perfumery, the pulp of this fruit, mixed intimately with lard, forms pomatum. The wood is employed for lasts, and for other purposes by turners; and being fine grained and compact is sometimes stained black, and used for ebony, by cabinet makers.

The quality of an apple is always judged of by the use to which it is to be applied. A table or dessert apple of the finest quality should be of medium size, regular form and fine colour; and the flesh should be fine-grained, crisp, or tender, and of a sprightly or rich flavour, and aroma. Very large sized, or coarse apples are only admired by persons who have little knowledge of the true criterion of excellence. Apples for kitchen use should have the property of cooking evenly into a tender pulpy consistence, and are generally acid in flavour; and, although there are many good cooking apples unfit for the table, many sorts, as the Fall Pippin and the Greening, are excellent for both purposes. To this we may add that for the common apple-sauce made by farmers a high flavoured sweet apple, which boils somewhat firm, is preferred, as this is generally made with cider. The very common use made of this cheap preserve at the north and west, and the recent practice of fattening hogs, horses, and other animals upon sweet apples, accounts for the much greater number of varieties of sweet apples held in esteem here than in any other country. In fact, so excellent has the saccharine matter of the apple been found for this purpose, that whole orchards

of sweet apples are frequently planted here for the purposes of fattening swine and cattle, which are allowed to run at large in them.

Cider apples are varieties frequently useless for any other purpose. The best for this purpose are rather tough, piquant, and astringent; their juice has a high specific quality, and they are usually great bearers; as the Harrison, the Red Streak, and the Virginia Crab.

Propagation. The apple for propagation is usually raised from seeds obtained from the pomace of the cider mills, and a preference is always given to that from thrifty young orchards. These are sown in autumn, in broad drills, in good mellow soil, and they remain in the seed buds, attention being paid to keeping the soil loose and free from weeds, from one to three years, according to the richness of the soil. When the seedlings are a little more than a fourth of an inch in diameter, they should be taken up in the spring or autumn, their tap roots shortened, and then planted in nursery rows, one foot apart and three to four feet between the rows. If the plants are thrifty, and the soil good, they may be budded the following autumn, within three or four inches of the ground, and this is the most speedy mode of obtaining strong, straight, thrifty plants. Grafting is generally performed when the stocks are about half an inch thick; and for several modes of performing it on the apple, see the remarks on *grafting* in a previous page. When young trees are feeble in the nursery, it is usual to head them back two thirds the length of the graft, when they are three or four feet high, to make them throw up a strong vigorous shoot.

Apple stocks for dwarfs are raised by layers, as pointed out in the article on Layers.

Apple trees for transplanting to orchards should be at least two years budded, and six or seven feet high, and they should have a proper balance of head or side branches.

Soil and situation. The apple will grow on a great variety of soils, but it seldom thrives on very dry sands, or soils saturated with moisture. Its favourite soil, in all countries, is a strong loam of a calcareous or limestone nature. A deep, strong gravelly, marly, or clayey loam, or a strong sandy loam on a gravelly subsoil, produces the greatest crops, and the highest flavoured fruit, as well as the utmost longevity of the trees. Such a soil is moist rather than dry, the most favourable condition for this fruit. Too damp soils may often be rendered fit for the apple by thorough draining, and too dry ones by deep subsoil ploughing, or trenching, where the subsoil is of a heavier texture. And many apple orchards in New-England are very flourishing and productive on soils so stony and rock-covered (though naturally fertile) as to be unfit for any other crop.*

* Blowing sands, says Mr. Coxe, when bottomed on a dry substratum, and

As regards site, apple orchards flourish best, in southern and middle portions of the country, on north slopes, and often even on the steep north sides of hills, where the climate is hot and dry. Farther north a southern or southeastern aspect is preferable, to ripen the crop and the wood more perfectly.

We may here remark that almost every district of the country has one or more varieties which, having had its origin there, seems also peculiarly adapted to the soil and climate of that locality. Thus the Newtown pippin, and the Spitzenburgh are the great apples of New-York; the Baldwin, and the Roxbury Russett, of Massachusetts; the Bellflower and the Rambo, of Pennsylvania and New-Jersey; and the Peck's Pleasant and the Seek-no-further, of Connecticut; and though these apples are cultivated with greater or less success in other parts of the country, yet nowhere is their flavour and productiveness so perfect as in the best soils of their native districts—excepting in such other districts where a *soil containing the same elements* and a *corresponding climate* are also to be found.

Planting and cultivation of orchards. With the exception of a few early and very choice sorts in the fruit garden, the orchard is the place for this tree, and indeed, when we consider the great value and usefulness of apples to the farmer, it is easy to see that no farm is complete without a large and well selected apple orchard.

The distance at which the trees should be planted in an orchard, depends upon the mode in which they are to be treated. When it is desired finally to cover and devote the whole ground to the trees, thirty feet apart is the proper interval, but where the farmer wishes to keep the land between the trees in grain and grass, fifty feet is not too great a distance in strong soils. Forty feet apart, however, is the usual distance at which the trees are planted in orchards.

Before transplanting, the ground should be well prepared for the trees, as we have insisted in a previous page, and vigorous healthy young trees should be selected from the nurseries. As there is a great difference in the natural growth, shape, and size of the various sorts of apple trees, those of the same kinds should be planted in the rows together, or near each other; this

aided by marl or meadow mud, will be found capable of producing very fine apple trees. Good cultivation, and a system of high manuring, will always remunerate the proprietor of an orchard, except it be planted on a quicksand or a cold clay; in such soils, no management can prevent an early decay. One of the most thrifty orchards I possess, was planted on a blowing sand, on which I carted three thousand loads of mud on ten acres, at an expense of about twenty-five dollars per acre, exclusive of much other manure; on this land I have raised good wheat and clover. Of five rows of the Wine-sap apple planted upon it eight years ago, on the summit of a sandy knoll, not one has died out of near an hundred trees—all abundant bearers of large and fair apples.—*View of Fruit Trees*, p. 31.

will not only facilitate culture and gathering the fruit, but will add to the neatness and orderly appearance of the orchard.

It is an indispensable requisite, in all young orchards, to keep the ground mellow and loose by cultivation; at least for the first few years, until the trees are well established. Indeed, of two adjoining orchards, one planted and kept in grass, and the other ploughed for the first five years, there will be an incredible difference in favour of the latter. Not only will these trees show rich dark luxuriant foliage, and clean smooth stems, while those neglected will have a starved and sickly look, but the size of the trees in the cultivated orchard will be treble that of the others at the end of this time, and a tree in one will be ready to bear an abundant crop, before the other has commenced yielding a peck of good fruit. Fallow crops are the best for orchards—potatoes, beets, carrots, bush beans, and the like; but whatever crops may be grown it should constantly be borne in mind that the roots of the tree require the sole occupancy of the ground so far as they extend and therefore that an area of more than the diameter of the head of the tree should be kept clean of crops, weeds, and grass.

When the least symptom of failure or decay in a bearing orchard is perceived, the ground should have a good top dressing of manure, and of marl, or mild lime, in alternate years. It is folly to suppose that so strong growing a tree as the apple, when planted thickly in an orchard, will not, after a few heavy crops of fruit, exhaust the soil of much of its proper food. If we desire our trees to continue in a healthy bearing state, we should, therefore, manure them as regularly as any other crop, and they will amply repay the expense. There is scarcely a farm where the *waste* of barn-yard manure,—the urine, etc., if properly economized by mixing this animal excrement with the muck-heap—would not be amply sufficient to keep the orchards in the highest condition. And how many moss-covered, barren orchards, formerly very productive, do we not every day see, which only require a plentiful new supply of food in a substantial top-dressing, thorough scraping of the stems, and washing with diluted soft soap, to bring them again into the finest state of vigour and productiveness!

The bearing year of the Apple, in common culture, only takes place every alternate year, owing to the excessive crops which it usually produces, by which they exhaust most of the organizable matter laid up by the tree, which then requires another season to recover, and collect a sufficient supply again to form fruit buds. When half the fruit is thinned out in a young state, leaving only a moderate crop, the apple, like other fruit trees, will bear every year, as it will also, if the soil is kept in high condition. The bearing year of an apple tree, or a whole orchard, may be changed by picking off the fruit when the trees

first show good crops, allowing it to remain only in the alternate seasons which we wish to make the bearing year.*

Pruning. The apple in orchards requires very little pruning if the trees, while the orchard is young, are carefully inspected every year, a little before midsummer, and all crossing branches taken out while they are small. When the heads are once properly adjusted and well balanced, the less the pruning saw and knife are used the better, and the cutting out of dead limbs, and removal of such as may interfere with others, or too greatly crowd up the head of the tree, is all that an orchard will usually require. But wherever a limb is pruned away, the surface of the wound should be neatly smoothed, and if it exceeds an inch in diameter, it should be covered with the liquid shellac previously noticed, or brushed over with common white lead, taking care with the latter, not to paint the bark also.

Insects. There are three or four insects that in some parts of the country, are very destructive or injurious to this tree; a knowledge of the habits of which, is therefore very important to

* One of the finest orchards in America is that of Pelham farm, at Esopus, on the Hudson. It is no less remarkable for the beauty and high flavour of its fruit, than the constant productiveness of trees. The proprietor, R. L. Pell, Esq., has kindly furnished us with some notes of his experiments on fruit trees, and we subjoin the following highly interesting one on the Apple.

"For several years past I have been experimenting on the apple, having an orchard of 2,000 bearing Newtown Pippin trees. I found it very unprofitable to wait for what is termed the 'bearing year,' and it has been my aim to assist nature, so as to enable the trees to bear every year. I have noticed that from the excessive productiveness of this tree, it requires the intermediate year to recover itself—to extract from the earth and the atmosphere the materials to enable it to produce again. This it is not able to do, unassisted by art, while it is loaded with fruit, and the intervening year is lost; if, however, the tree is supplied with proper food it will bear every year; at least such has been the result of my experiments. Three years ago, in April, I scraped all the rough bark from the stems of several thousand trees in my orchards, and washed all the trunks and limbs within reach with soft soap; trimmed out all the branches that crossed each other, early in June, and painted the wounded part with white lead, to exclude moisture and prevent decay. I then, in the latter part of the same month, slit the back by running a sharp pointed knife from the ground to the first set of limbs, which prevents the tree from becoming bark bound, and gives the young wood an opportunity of expanding. In July I placed one peck of oyster shell lime under each tree, and left it piled about the trunk until November, during which time the drought was excessive. In November the lime was dug in thoroughly. The following year I collected from these trees 1700 barrels of fruit, part of which was sold in New-York for four, and others in London for nine dollars per barrel. The cider made from the refuse, delivered at the mill two days after its manufacture, I sold for three dollars and three quarters per barrel of 32 gallons, exclusive of the barrel. In October I manured these trees with stable manure in which the ammonia had been fixed, and covered this immediately with earth. The succeeding autumn they were literally bending to the ground with the finest fruit I ever saw, while the other trees in my orchard not so treated are quite barren, the last season having been their bearing. I am now placing

the orchardist. These are chiefly the borer, the caterpillar, and the canker worm.

The apple Borer is, as we usually see it in the trunks of the apple, quince, and thorn trees, a fleshy white grub, which enters the tree at the collar, just at the surface of the ground, where the bark is tender, and either girdles the tree or perforates it through every part of the stem, finally causing its death. This grub is the larva of a brown and white striped beetle, half an inch long, (*Saperda bivittata*,) and it remains in this grub state two or three years, coming out of the tree in a butterfly form early in June—flying in the night only, from tree to tree after its food, and finally depositing its eggs during this and the next month, in the collar of the tree.

The most effectual mode of destroying the borer, is that of killing it by thrusting a flexible wire as far as possible into its hole. Dr. Harris recommends placing a bit of camphor in the mouth of the aperture and plugging the hole with soft wood. But it is always better to prevent the attack of the borer, by placing about the trunk, early in the spring, a small mound of ashes or lime; and where orchards have already become greatly infested with this insect, the beetles may be destroyed by thousands, in June, by building small bonfires of shavings in various parts of the orchard. The attacks of the borer on nursery trees may, in a great measure, be prevented by washing the stems in May, quite down to the ground with a solution of two pounds of potash in eight quarts of water.

The Caterpillar is a great pestilence in the apple orchard. The species which is most troublesome to our fruit trees (*Clisiocampa americana*,) is bred by a sort of lackey moth, different from that most troublesome in Europe, but its habits as a caterpillar are quite as annoying to the orchardist. The moth of our common caterpillar is a reddish brown insect, whose expanded wings measure about an inch and a half. These moths appear in great abundance in midsummer, flying only at night, and often buzzing about the candles in our houses. In laying their eggs, they choose principally the apple or cherry, and they deposit thousands of small eggs about the forks and extremities of the young branches. The next season, about the middle of May, these eggs begin to hatch, and the young caterpillars in myriads, come forth weaving their nests or tents in the fork of

round each tree one peck of charcoal dust, and propose in the spring to cover it from the compost heap.

"My soil is a strong, deep, sandy loam on a gravelly subsoil. I cultivate my orchard grounds, as if there were no trees on them, and raise grain of every kind except rye, which grain is so very injurious that I believe three successive crops of it would destroy any orchard younger than twenty years. I raised last year in an orchard containing 20 acres, trees 18 years old, a crop of Indian corn which averaged 140 bushels of ears to the acre."

the branches. If they are allowed by the careless cultivator to go on and multiply, as they soon do, incredibly fast, they will in a few seasons,—sometimes in a single year,—increase to such an extent as almost to cover the branches. In this caterpillar state they live six or seven weeks, feeding most voraciously upon the leaves, and often stripping whole trees of their foliage. Their effect upon the tree at this period of the season, when the leaves are most important to the health of the tree and the growth of the fruit, is most deplorable. The crop is stunted, the health of the tree enfeebled, and, if they are allowed to remain unmolested for several seasons, they will often destroy its life or render it exceedingly decrepid and feeble.

To destroy the caterpillar various modes are adopted. One of the most effectual is that practised by Mr. Pell in his orchards, which is to touch the nest with a sponge, attached to the end of a pole, and dipped in strong spirits of ammonia; the sponge should be turned slowly round in the nests, and every insect coming in contact will be instantly killed. This should be done early in the season. Or, they may be brought down and destroyed with a round brush fixed to the end of a pole, and worked about in the nests. On small trees they may be stripped off with the hand, and crushed under the foot; and by this plain and simple mode, begun in time, with the aid of a ladder, they may in a large orchard be most effectually kept under by a few moments' daily labour of a single man. As they do not leave their nests until nine in the morning, the extirpator of caterpillars should always be abroad and busy before that time, and while they are all lying quietly in the nests. And let him never forget that he may do more in an hour when he commences early in the season, than he will in a whole day at a later period, when they are thoroughly scattered among the trees. If they are allowed to remain unmolested, they spin their cocoons about the middle of June, and in a fortnight's time comes forth from them a fresh brood of moths—which, if they are not put an end to by bonfires, will again lay the eggs of an infinite number of caterpillars for the next spring.

The Canker worm, (*Anisopteryx pometaria*, of Harris,) is in some parts of the country, one of the worst enemies of the apple, destroying also its foliage with great rapidity. It is not yet common here, but in some parts of New-England it has become a serious enemy. The male is a moth with pale, ash-coloured wings with a black dot, a little more than an inch across. The female is wingless, oval, dark ash-colored above, and gray beneath.

The canker worm usually rises out of the ground very early in the spring, chiefly in March, as soon as the ground is free from frost; though a few also find their way up in the autumn. The females having no wings, climb slowly up the trunks of the trees, while the winged males hover about to pair with them.

Very soon after this if we examine the trees we shall see the eggs of which every female lays some sixty or a hundred, glued over, closely arranged in rows and placed in the forks of branches and among the young twigs. About the twentieth of May, these eggs are hatched, and the canker worms, dusky brown, or ash-coloured with a yellow stripe, make their appearance and commence preying upon the foliage. When they are abundant they make rapid progress, and in places, where the colony is firmly established, they will sometimes strip an orchard in a few days, making it look as if a fire had passed over it. After feeding about four weeks, they descend into the ground three or four inches, where they remain in a chrysalis form, to emerge again the next season. As the female is not provided with wings, they do not spread very rapidly from one place to another.

The attacks upon the canker worm should be chiefly made upon the female, in her way from the ground up the trunk of the tree.

The common mode of protecting apple trees is to surround the trunk with a belt or bandage of canvass, four or five inches wide, which is then thickly smeared with tar. In order to prevent the tar from soon becoming dry and hard, a little coarse train oil must be well mixed with it; and it should be watched and renewed as often as it appears necessary. This tarred belt catches and detains all the females on their upward journey, and prevents them from ascending the tree to lay their eggs. And if kept in order it will very effectually deter and destroy them. When the canker worm is abundant, it is necessary to apply the tarred bandage in October, and let it remain till the last of May, but usually it will be sufficient to use it in the spring. It is probable that a mixture of coal tar and common tar would be the best application; as it is more offensive and will not so easily dry and become useless, by exposure to the air and sun. Some persons apply the tar directly to the stems of the tree, but this has a very injurious effect upon the trunk. Old India rubber, melted in an iron vessel over a very hot fire, forms a very adhesive fluid which is not affected by exposure to the weather, and is considered, by those who have made use of it, the best substance for smearing the bandages, as being a more effectual barrier, and seldom or never requiring renewal.

Mr. Jonathan Dennis, jr. of Portsmouth, Rhode Island, has invented and patented a circular leaden trough, which surrounds the trunk of the tree, and is filled with oil, and stops effectually the ascent of the canker worm. There appear, however, to be two objections to this trough, as it is frequently used; one, the escape of the oil if not carefully used, which injures the tree; and the other, the injurious effect of nailing the troughs to the bark or trunk. They should be supported by wedges of wood driven in between the trough and the trunk, and the spaces completely

filled up with liquid clay put on with a brush. The insects must be taken out and the oil renewed, from time to time. For districts where the canker worm greatly abounds, this leaden trough is probably the most permanent and effectual remedy yet employed.

Experiments made by the Hon. John Lowell, and Professor Peck, of Massachusetts, lead to a belief that if the ground, under trees which suffer from this insect, is dug and well pulverized to the depth of five inches in October, and a good top dressing of lime applied as far as the branches extend, the canker worm will there be almost entirely destroyed. The elm, and linden trees in many places, suffer equally with the apple, from the attacks of the canker worm.

The Bark-louse, a dull white oval scale-like insect, about a tenth of an inch long, (a species of *coccus*,) which sometimes appears in great numbers on the stems of young apple and pear trees, and stunts their growth, may be destroyed by a wash of soft soap and water, or the potash solution. The best time to apply these is in the month of June, when the insects are young.

The Woolly aphis (*aphis lanigera*,) or American blight* is a dreadful enemy of the apple abroad, but is fortunately, very rarely seen as yet, in the United States. It makes its appearance in the form of a minute white down, in the crotches and crevices of the branches, which is composed of a great number of very minute woolly lice, that if allowed, will increase with fearful rapidity, and produce a sickly and diseased state of the whole tree. Fortunately, this insect too is easily destroyed. "This is effected by washing the parts with diluted sulphuric acid; which is formed by mixing $\frac{3}{4}$ oz. by measure, of the sulphuric acid of the shops, with $7\frac{1}{2}$ oz. of water. It should be rubbed into the parts affected, by means of a piece of rag tied to a stick, the operator taking care not to let it touch his clothes. After the bark of a tree has been washed with this mixture, the first shower will re-dissolve it, and convey it into the most minute crevice, so as effectually to destroy all insects that may have escaped."—(*Loudon's Magazine IX.* p. 336.)

The Apple worm (or Codling moth, *Carpocapsa pomonana*, of European writers,) is the insect, introduced with the apple tree from Europe, which appears in the early worm-eaten apples and pears, in the form of a reddish white grub, and causes the fruit to fall prematurely from the trees. The perfect insect is a small moth, the fore-wings gray, with a large round brown spot on the hinder margin. These moths appear in the greatest

* It is not a little singular that this insect, which is not indigenous to this country, and is never seen here except where introduced with imported trees, should be called in England the *American* blight. It is the most inveterate enemy of the apple in the north of France and Germany.

numbers in the warm evenings of the 1st of June, and lay their eggs in the eye or blossom-end of the young fruit, especially of the early kinds of apples and pears. In a short time, these eggs hatch, and the grub burrows its way till it reaches the core: the fruit then ripens prematurely, and drops to the ground. Here the worm leaves the fruit and creeps into the crevices of the bark and hollow of the tree, and spins its cocoon, which usually remains there till the ensuing spring, when the young moth again emerges from it. The readiest way of destroying them, when it can be done conveniently, is to allow swine and poultry to run at large in the orchards when the premature fruit is falling; or otherwise, the fruit may be picked up daily and placed where the worms will be killed. It is said that if an old cloth is placed in the crotch of the tree about the time the fruit begins to drop, the apple worm will make it a retiring place, and thousands may be caught and killed from time to time. As the cocoons are deposited chiefly under the old loose bark, the thorough cultivator will take care, by keeping the trunks of his trees smooth, to afford them little harbour; and by scraping and washing the trunks early in the spring, to destroy such as may have already taken up their quarters there.

When the fruit of orchards is much liable to the attacks of this insect we cannot too much insist on the efficacy of small bonfires lighted in the evening, by which myriads of this and all other moths may be destroyed, before they have time to deposit their eggs and cause worm-eaten fruit.

The Blight which occasionally kills suddenly the ends of the limbs of the apple and the quince, appears to be caused by an insect similar to that which produces the fire blight of the pear, and must be treated in the same way as directed for that tree.

Gathering and keeping the fruit. In order to secure soundness and preservation, it is indispensably necessary that the fruit should be gathered by hand. For winter fruit the gathering is delayed as long as possible, avoiding severe frosts, and the most successful practice with our extensive orchardists is to place the good fruit directly, in a careful manner, in new, tight flour barrels as soon as gathered from the tree. These barrels should be gently shaken while filling, and the head closely pressed in; they are then placed in a cool shady exposure under a shed open to the air, or on the north side of a building, protected by covering of boards over the top, where they remain for a fortnight, or until the cold becomes too severe, when they are carefully transferred to a cool, dry cellar, in which air can be admitted occasionally in brisk weather.

A cellar, for this purpose, should be dug in dry, gravelly, or sandy soil, with, if possible, a slope to the north; or, at any rate, with openings on the north side for the admission of air very rarely in weather not excessively cold. Here the barrels

should be placed on tiers *on their sides*, and the cellar should be kept as dark as possible. In such a cellar, one of the largest apple growers in Dutchess county is able to keep the Greening apple, which, in the fruit room, usually decays in January, until the 1st of April, in the freshest and finest condition. Some persons place a layer of clean rye straw between every layer of apples, when packing them in the barrels.

Apples are frequently kept by farmers in pits or ridges in the ground, covered with straw and a layer of earth, in the same manner as potatoes, but it is an inferior method, and the fruit very speedily decays when opened to the air. The English apple growers lay their fruit in heaps, in cool dry cellars, and cover them with straw.

When apples are exported, each fruit in the barrel should be wrapped in clean coarse paper, and the barrels should be placed in a dry, airy place, between decks.

CIDER. To make the finest cider, apples should be chosen which are especially suited to this purpose. The fruit should be gathered about the first of November, and coarse cloths or straw should be laid under the tree to secure them against bruising when they are shaken from the tree. If the weather is fine the fruit is allowed to lie in heaps in the open air, or in airy sheds or lofts for some time, till it is thoroughly ripened. All immature and rotten fruit should then be rejected, and the remainder ground in the mill as nearly as possible to an uniform mass. This pulp should now remain in the vat from 24 to 48 hours, or even longer if the weather is cool, in order to heighten the colour and increase the saccharine principle. It is then put into the press (without wetting the straw,) from whence the liquor is strained through hair cloth or sieves, into perfectly clean, sweet, sound casks. The casks, with the bung out, are then placed in a cool cellar, or in a sheltered place in the open air. Here the fermentation commences, and as the pomace and froth work out of the bung-hole, the casks must be filled up every day with some of the same pressing, kept in a cask for this purpose. In two or three weeks this rising will cease, when the first fermentation is over, and the bung should, at first, be put in loosely—then, in a day or two, driven in tight —leaving a small vent hole near it, which may also be stopped in a few days after. If the casks are in a cool airy cellar, the fermentation will cease in a day or two, and this state may be known by the liquor becoming clear and bright, by the cessation of the discharge of fixed air, and by the thick crust which has collected on the surface. The clear cider should now be drawn off and placed in a clean cask. If the cider, which must be carefully watched in this state to prevent the fermentation going too far, remains quiet, it may be allowed to stand till spring, and the addition at first of about a gill of finely powdered

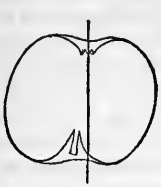
charcoal to a barrel will secure this end; but if a scum collects on the surface, and the fermentation seems inclined to proceed further, it must be immediately racked again. The vent-spile may now be driven tight but examined occasionally. In the beginning of March a final racking should take place, when, should the cider not be perfectly fine, about three fourths of an ounce of Isinglass should be dissolved in the cider and poured in each barrel, which will render it perfectly clear. It may be bottled now, or any period before the blossoming of the apple or afterwards, late in May. When bottling, fill the bottles within an inch of the bottom of the cork, and allow the bottles to stand an hour before the corks are driven. They should then be sealed, and kept in a cool cellar, with clean dry sand up to their necks; or laid on their sides in boxes or bins, with the same between each layer.

VARIETIES. The varieties of the apple, at the present time, are very numerous. The garden of the Horticultural Society, of London, which contains the most complete collection of fruit in the world, enumerates now about 900 varieties, and nearly 1500 have been tested there. Of these, the larger proportion are of course inferior, but it is only by comparison in such an experimental garden that the value of the different varieties, for a certain climate, can be fully ascertained.

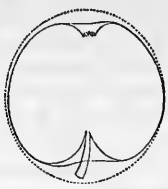
The European apples generally, are in this climate, inferiour to our first rate native sorts, though many of them are of high merit also with us. There is much confusion at the West, in regard to names of apples; and the variation of fruits from soil, location, or other causes, makes it difficult to identify the kinds, and until they are brought together and fruited on the same ground the certainty of their nomenclature will not be established. The same remarks will apply to the South. New varieties of apples are constantly springing up in this country from the seed, in favourable soils; and these, when of superiour quality, may, as a general rule, be considered much more valuable for orchard culture than foreign sorts, on account of their greater productiveness and longevity. Indeed, every state has some fine apples, peculiar to it, and it is, therefore, impossible in the present state of pomology in this country, to give any thing like a complete list of the finest apples of the United States. To do this, will require time, and an extended and careful examination of their relative merits collected in one garden. The following descriptions comprise all the finest American and foreign varieties yet known in our gardens.

In the ensuing pages, apples are described as set upon their base or lower side, with the stalk inserted in the centre of the base or more generally in a *cavity* that occupies the centre of the base. They are said to be *globular* when they would be nearly bounded by the lines of a circle, as *Summer Rose;* and *oblate* when they would be circumscribed perpendicularly by a *depressed*

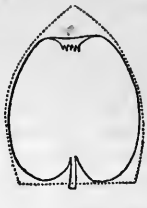
circle, as Maiden's Blush. When they are bounded by a circle elevated but symmetrical, they are called *oval*, as Summer Pippin; when not symmetrical *perpendicularly* but broadest at their lower portion in the form of an egg, they are said to be *ovate*.



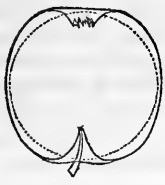
Oblique.



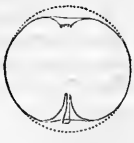
Oval.



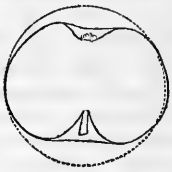
Elongated Conic.



Cylindric.



Globular.



Oblate.

When with considerable breadth of base but less than their altitude, the sides are bounded by curved lines tending towards each other at the apex, they are called *conic*, as Esopus Spitzenburgh. When the altitude is not greater than the breadth or less than the breadth, they are called *oblate inclining* to or *approaching* conic. When the curved lines are interrupted suddenly *much* before they reach each other at the apex, the form is called *truncate conic*, as Herefordshire Pearmain. When the altitude is *much* greater than the breadth, they are said to be *elongated conic*, as Porter; *oblique* when the opposite sides maintain their relative positions to each other, but are so inclined from their upward direction, that a perpendicular let fall from the centre of the eye would not touch the centre of the cavity, see Yellow Newtown Pippin, Pryor's Red, Pennock, etc.; *cylindric* when the fruit is round horizontally, flattened at base and crown, and with sides perpendicularly parallel, as Long John or Long Pearmain; *oblong* when the sides are perpendicularly nearly parallel and the height greater than the breadth, but without the roundness that constitutes cylindric—it is the *oval* form *elongated*. When a flat face or some degree of flatness is impressed upon the sides of apples so as to form more or less distinctly ridges or angles running perpendicularly to the base, they are said to be *angular;* when these ridges have intervening hollows, they are said to be *ribbed*.

APPLES.

[In arranging the apples, we have thought best to reject the classes according to the season, and adopt the principle of the system recommended by the late A. J. Downing; but instead of using the terms "best," "very good," and "good," we have designated the qualities as first, second, and third, answering to the above.]

CLASS I.

This section comprises those that are well known, of excellent quality, and good habit generally.

American Summer Pear. Thomp.

Early Summer Pearmain. *Coxe.*

A rich, highly-flavoured fruit, much esteemed in New Jersey, where it is most known. It appears to be quite different from the Summer Pearmain (of the English), and is probably a seedling raised from it. It ripens gradually from the tenth of August to the last of September.

Fruit of medium size, oblong, widest at the crown, and tapering slightly to the eye. Skin, red spotted with yellow in the shade, but streaked with livelier red and yellow on the sunny side. Stalk three fourths of an inch long, and pretty deeply inserted. Eye deeply sunk. Flesh yellow, remarkably tender, with a rich and pleasant flavour, and often bursts in falling from the tree. This is a valuable apple for all purposes, and it thrives admirably on sandy soils. In the nursery the tree grows slowly.

Autumn Sweet Bough.

Late Bough. Summer Bellflower.
Fall Bough. Philadelphia Sweet.

Origin unknown. Tree, vigorous, upright, very productive. One of the very best dessert sweet apples of its season. Fruit, medium, conical, angular. Skin, smooth, pale yellow, sprinkled with a few brown dots. Stalk of medium length, rather slender, inserted in a deep narrow cavity; calyx closed; segments long; basin deep, corrugated; flesh white, very tender, with a sweet, refreshing, vinous flavour. Last of August to first of October.

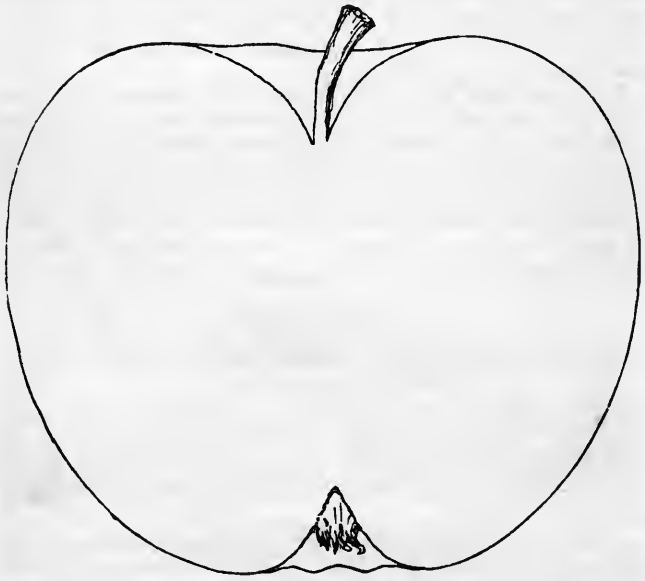
Baldwin. Ken. Thomp. Man.

Woodpecker. Pecker.

The Baldwin stands at the head of all New England apples, and is unquestionably a first-rate fruit in all respects. It is a

native of Massachusetts, and is more largely cultivated for the Boston market than any other sort. It bears most abundantly with us, and we have had the satisfaction of raising larger, more beautiful, and highly flavoured specimens here, than we ever saw in its native region. The Baldwin, in flavour and general characteristics, evidently belongs to the same family as our Esopus Spitzenburgh, and deserves its extensive popularity.

Fruit large, roundish, and narrowing a little to the eye. Skin yellow in the shade, but nearly covered and striped with crimson, red, and orange, in the sun; dotted with a few large russet dots, and with radiating streaks of russet about the stalk. Calyx closed, and set in a rather narrow, plaited basin. Stalk half to three fourths of an inch long, rather slender for so large a fruit, planted in an even, moderately deep cavity. Flesh yellowish white, crisp, with that agreeable mingling of the saccharine and acid which constitutes a rich, high flavour. The tree is a vigorous, upright grower, and bears most abundantly. Ripe from November to March, but with us is in perfection in January.



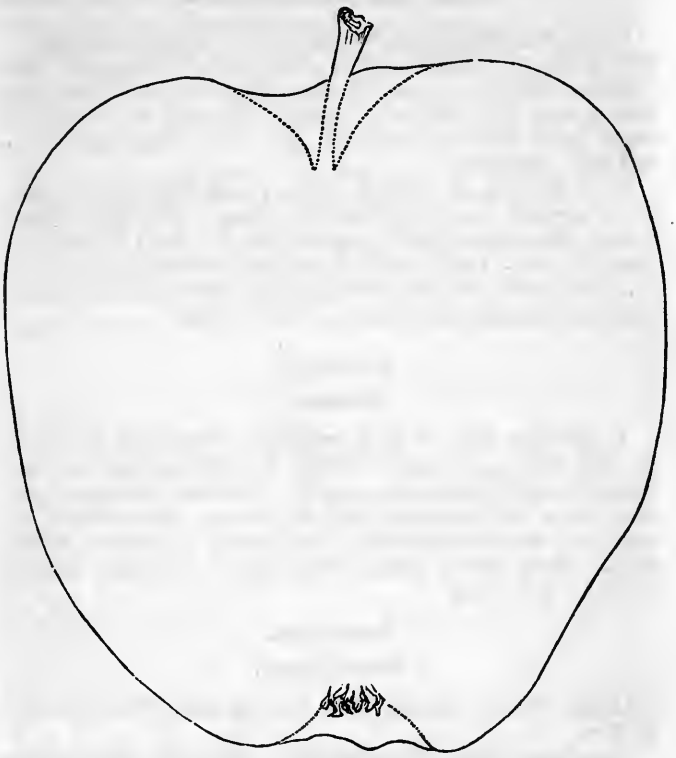
Baldwin.

Belle-Fleur, Yellow. Thomp.

Belle-Fleur. *Coxe. Floy. Ken.*
Yellow Bellflower, *of most nurseries.*

The Yellow Belle-Fleur is a large, handsome, and excellent

winter apple, every where highly esteemed in the United States. It is most abundantly seen in the markets of Philadelphia, as it thrives well in the sandy soils of New Jersey. Coxe first described this fruit; the original tree of which grew in Burlington,



Yellow Belle-Fleur.

New Jersey. We follow Thompson, in calling it *Belle-Fleur*, from the beauty of the blossoms, with the class of French apples to which it belongs.

Fruit very large, oblong, a little irregular, tapering to the eye. Skin smooth, pale lemon yellow, often with a blush next the sun. Stalk long and slender, in a deep cavity. Calyx closed and set in a rather narrow, plaited basin. Seeds in a large hollow capsule or core. Flesh tender, juicy, crisp, with a sprightly subacid flavour; before fully ripe, it is considerably acid. Wood yellowish, and tree vigorous, with spreading drooping branches. A regular and excellent bearer, and worthy of a place in every orchard. November to March.

Belmont.

Gate. *White apple.*
Mamma Beam. *Waxen of some.*
Golden Pippin of some. *Kelley white.*

Origin near Strasburgh, Lancaster Co., Pa., in the garden of Mrs. Beam at her gate, hence the names "Gate apple" and "Mamma Beam." It was taken to Ohio by Jacob Nesy sen., and became very popular in Belmont Co., and we retain this name, being the most universal one. Tree vigorous, healthy, and very productive.

Fruit medium, to large, globular, a little flattened and narrower towards the eye, sometimes oblong. Skin light, waxen yellow, often with a bright vermillion cheek. Stalk short, cavity generally large. Calyx usually closed, basin rather deep, corrugated. Flesh yellowish, crisp, tender, juicy, sometimes almost melting, of a mild agreeable flavour. Nov. to Feb.

Bohannan.

Buchanan.

A Southern fruit of great excellence, introduced by Lewis Sanders, of Ky., good regular bearer. Fruit rather large, roundish, flattened, approaching conic, angular. Skin fair, shining, fine yellow, with a bright crimson cheek in the sun. Stalk slender, inserted in a round acute cavity. Calyx closed in a narrow abrupt basin. Flesh yellow, tender, juicy, with a fine spicy subacid flavour. July, Aug.

Broadwell.

Broadwell Sweet.

Origin Ohio, a valuable fruit, tree vigorous, spreading, productive.

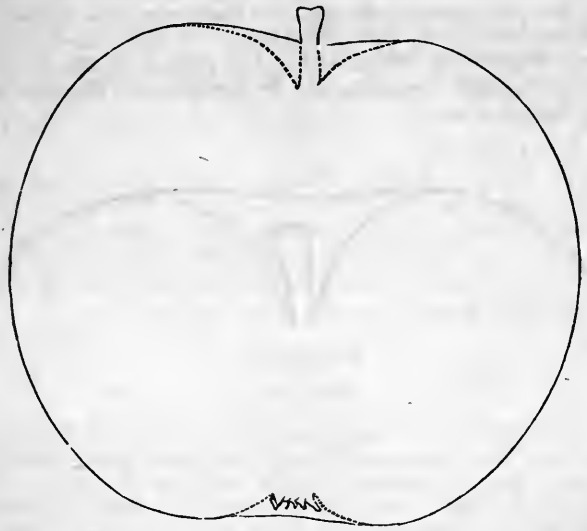
Fruit large, oblate, somewhat conic. Skin pale yellow, with a blush. Stem short and small, surrounded with russet inserted in a deep, broad cavity. Calyx open in a somewhat abrupt narrow basin. Flesh whitish, firm, generally tender, juicy, sweet, aromatic. Nov. to March.

Early Harvest. Thomp. Man.

Prince's Harvest, or Early French Reinette, *of Coxe.*
July Pippin. *Floy.*
Yellow Harvest.
Large White Juneating.
Tart Bough.
Early French Reinette.

An American apple; and taking into account its beauty, its

excellent qualities for the dessert and for cooking, and its productiveness, we think it the finest early apple yet known. It begins to ripen about the first of July, and continues in use all that month. The smallest collection of apples should comprise



Early Harvest.

this and the Red Astrachan. Form round, above medium size, rarely a little flattened. Skin very smooth, with a few faint white dots, bright straw colour when fully ripe. *Stalk* half to three fourths of an inch long, rather slender, inserted in a hollow of moderate depth. *Calyx* set in a shallow basin. *Flesh* very white, tender and juicy, crisp, with a rich, sprightly, sub-acid flavour. The young trees of moderate vigour, with scarcely diverging shoots. Manning errs by following Coxe in calling this a flat apple. Bracken may prove the same.

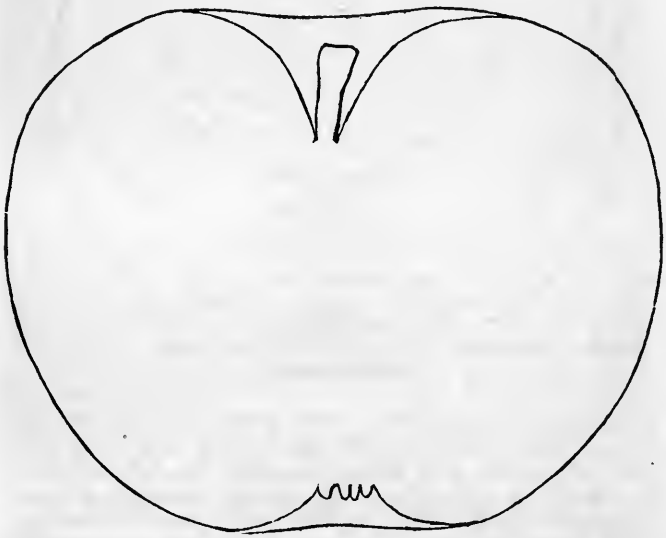
Cogswell.

Cogswell Pearmain.

This excellent apple originated on the farm of Fred. Brewster, Town of Griswold, near Norwich, Conn., and where known is much esteemed and stands unrivalled as a dessert fruit of its season, a vigorous, upright grower and an abundant bearer every other year, fruit very uniform in size, fair and beautiful, and a desirable fruit.

Size above medium, roundish oblate, regular. Stem short, rather slender, inserted in a large russeted cavity. Calyx small, nearly closed, set in a small shallow basin. Skin rich yellow, nearly covered with red, marked and streaked with bright red, flesh yellowish, compact, tender, juicy, scarcely sub-acid, with a very fine rich, aromatic flavour, core small, ripe Dec. to March.

Myer's Nonpareil, Ohio Nonpareil. An apple much grown at the West by the above names, and answers to the description of Cogswell Pearmain, and is thought to be identical, but may not prove so.



Cogswell.

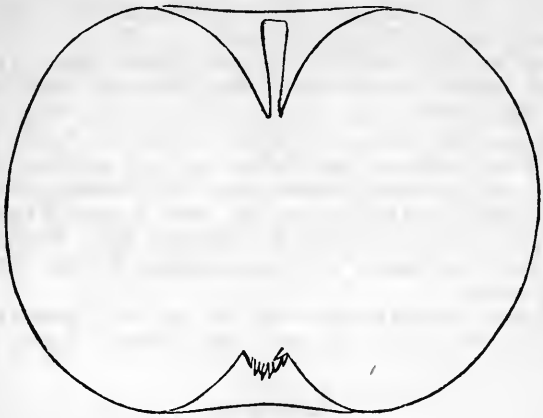
Early Joe.

Origin, orchard of Oliver Chapin, Ontario Co., N. Y., tree of slow growth, productive, requires high culture for fair fruit.

Fruit below medium, oblate, very slightly conic. Skin smooth, yellowish, shaded and striped with red, and thickly sprinkled with greenish spots. Stalk of medium length inserted in a large cavity surrounded by russet. Calyx closed, basin moderate. Flesh whitish, tender, juicy, with a very agreeable vinous flavour, ripe middle of August to middle of September.

Evening Party.

Origin Berks Co., Pa. Fruit small or medium, oblate, slightly inclining to oval. Skin yellow chiefly, shaded and sometimes



Evening Party.

striped with red. Stem short, inserted in a round, deep cavity, sometimes russeted. Calyx closed, basin large. Flesh juicy, tender, crisp, with a brisk saccharine, somewhat vinous, aromatic flavour, an excellent dessert fruit. December and January.

Fall Queen of Ky.

Winter Queen. Ladies' Favourite of Tenn.

Origin uncertain, much grown at the South and South-west, where it is highly esteemed.

Tree very vigorous, upright, an early and abundant bearer.

Fruit large, oblate inclining to conic, slightly oblique, angular. Skin yellow, striped and marbled with crimson, and thickly sprinkled with brown and whitish dots. Stalk short, inserted in a broad, deep russeted cavity. Calyx large, partially closed, set in a large open basin. Flesh yellowish, crisp, tender, juicy, with a sprightly mild sub-acid flavour. January to March.

Fall Pippin. Coxe. Floy.

The Fall Pippin is, we think, decidedly an American variety, Thompson and Lindley to the contrary, notwithstanding. It is,

very probably, a seedling raised in this country, from the *White Spanish Reinette*, or the Holland pippin, both of which it so much resembles, and from which it, in fact, differs most strongly in the season of maturity. The Fall Pippin is a noble fruit, and is considered the first of Autumn apples in the middle states, where its beauty, large size, and its delicious flavour for the table or for cooking, render it very popular.

Fruit very large, roundish, generally a little flattened, pretty regular, sometimes with obscure ribs at the eye. Stalk rather long, three-fourths of an inch, projecting considerably beyond the fruit, (which distinguishes it from the Holland Pippin,) set in a rather small, shallow, round cavity. Calyx not very large, rather deeply sunk in a round, narrow cavity. Skin smooth, yellowish-green, becoming a fine yellow, with often a tinge of brownish blush, on one side, and with a few scattered dots. Flesh white, very tender and mellow with a rich, aromatic flavour. October to December.

There are several spurious sorts, the true one is always rather flattened, with a projecting stalk. (See Holland Pippin.)

Fall Wine.

Sweet Wine. Sharpe's Spice.
Ohio Wine. Uncle Sam's best.

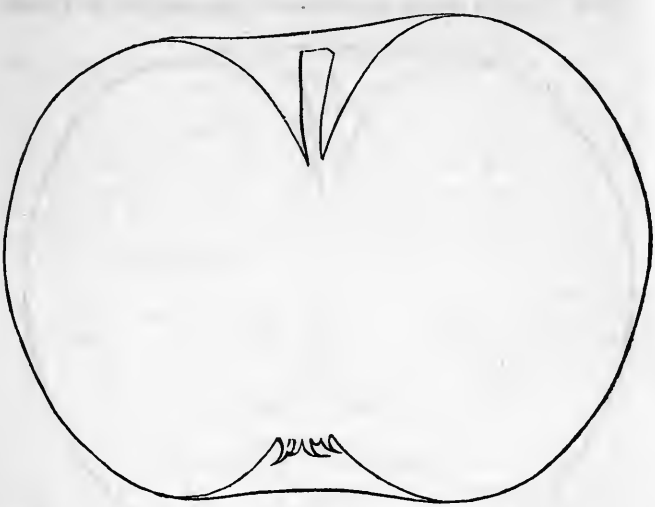
Origin unknown, probably an old Eastern fruit called "Wine" or "Sweet Wine," not now much cultivated on account of the fruit being defective, but in the rich Western soils it thrives admirably, producing fine fruit, yet in a few localities they complain of its being knurly. Tree healthy, but of rather slender growth, bearing moderate crops annually. Fruit about medium. Stem rather long, slender, in a broad, deep cavity, surrounded by clear, waxen colour. Calyx partially closed in a broad, deep, corrugated basin. Skin striped and shaded with red, on a light ground, with numerous russet dots. Flesh yellowish, juicy, tender with a rich, aromatic, *very* mild, sub-acid flavour, almost sweet. September, November.

Fulton.

A new Western fruit originated in the orchard or nursery of A. G. Downing, Canton, Fulton Co., Illinois, and is a valuable fruit, a vigorous grower, hardy, regular in form, an annual and productive bearer.

Size about medium, oblate, not symmetric. Stem three-fourths of an inch, rather slender, inserted in a broad deep cavity. Calyx large, open, segments small, recurved in a pretty large

basin. Skin light yellow, sprinkled with green or grey dots, having a blush on the sunny side. Flesh yellowish, juicy, tender, melting with a very rich, mild, sub-acid flavour. By some the saccharine would suppose to predominate. Ripe November to March.



Fulton.

Garden Royal.

Origin Sudbury, Mass., farm of Mr. Bowker. Tree of moderate growth, productive.

Fruit below medium, roundish, oval. Skin yellow, striped aud shaded with red and dark crimson. Stalk of medium length, inserted in a deep, acute cavity. Calyx partially closed in a basin surrounded by prominences. Flesh yellow, very tender, juicy, rich, vinous, aromatic, a beautiful and excellent fruit. September.

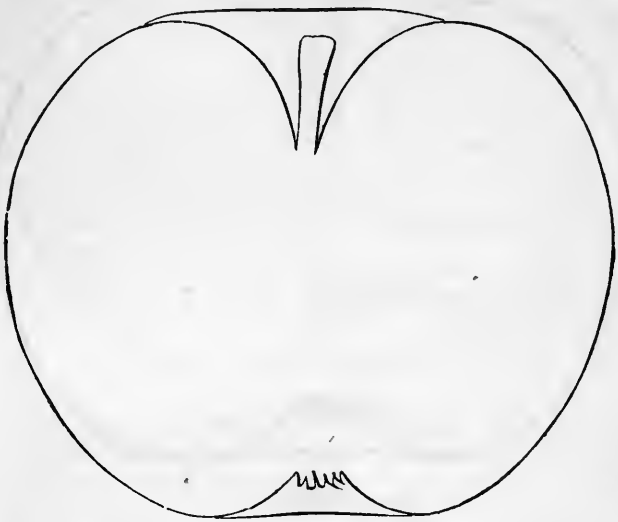
Golden Pippin.

American Golden Pippin. New York Greening.
Ribbed Pippin. Newtown Greening.

This old apple is one of our finest American fruits, and seems not to be generally known. We are indebted to Dr. James Fountain, of Westchester county, for calling attention to it. He says it has been cultivated in that and the adjoining counties for more than fifty years, and is considered one of the most profit-

able for orchard culture and marketing; they are also a superior apple for family use. Growth strong, similar to R. I. Greening, but less drooping, making a round, spreading head; does not bear young, but very productive when a little advanced, and a popular fruit where known.

Form variable, oblate, globular, or conic, angular or ribbed.

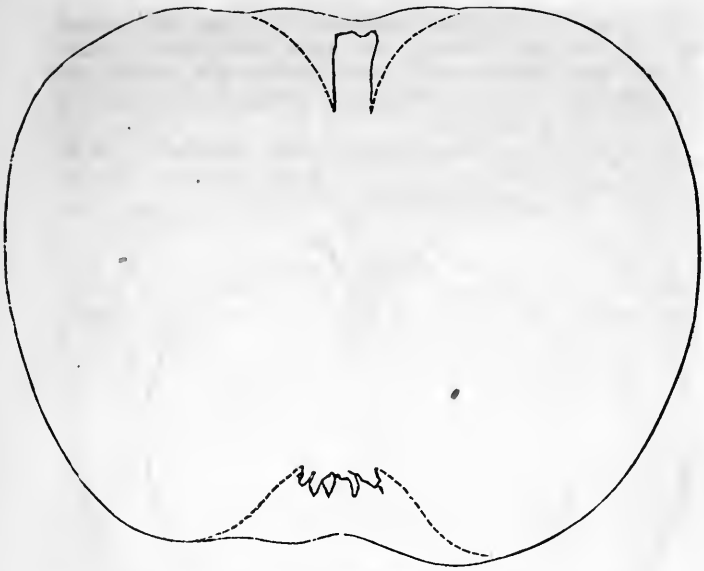


Stem stout, short, inserted in a deep cavity. Calyx closed, set in an irregular basin. Skin fine golden yellow, thinly sprinkled with dots, sometimes slightly netted with thin russet. Flesh yellowish, tender, juicy, almost melting, with a rich, refreshing, vinous, aromatic flavour; core rather large. November to February.

Gravenstein. Thomp. Lind.

Grave Slije.

A superb looking German apple, which originated at Gravenstein, in Holstein, and is thought one of the finest apples of the North of Europe. It fully sustains its reputation here, and is, unquestionably, a fruit of first rate quality. Fruit large, rather flattened, and a little one-sided or angular, broadest at the base. Stalk quite short and strong, deeply set. Calyx large, in a wide, deep, rather irregular basin. Skin greenish yellow at first, but becoming bright yellow, and beautifully dashed and pencilled, and marbled with light and deep red and orange. Flesh tender and crisp, with a high flavoured, somewhat aromatic taste.



Gravenstein.

Ripens with us in September and October, but will keep a month longer. The trees are very thrifty, strong growers, and bear young.

Green Sweet.

Honey Greening.

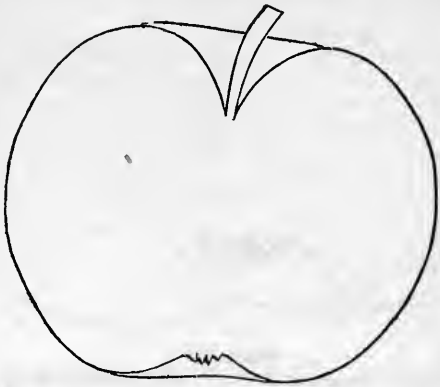
Tree, vigorous and productive. Fruit medium, somewhat conic. Skin green, sometimes becoming a little yellow at maturity, covered with greenish or light russet dots. Stalk of medium length. Cavity rather deep, covered with russet; basin shallow and abrupt, somewhat furrowed. Flesh whitish, tender, juicy, sweet, with a vinous, refreshing flavour. December to March.

Hall.

Hall's Seedling.
Hall's Red.
Jenny Seedling.

Origin on the grounds of Mr. Hall, Franklin county, North Carolina. Tree of moderate growth, hardy, upright, with long, slender, reddish branches, and remarkably firm wood. The tree never attains a very large size; is very productive, and is considered in North Carolina the best long-keeping dessert apple they cultivate. We are indebted to G. W. Johnson, of Milton, North Carolina, for specimens, history, &c. He says an old

variety, and now widely disseminated, and wherever known, is held in the highest estimation. Fruit small, oblate, slightly conic. Skin smooth, thick, mostly shaded with crimson, and covered with various coloured dots. Stem of medium length, slender, curved, inserted in a round, deep, open cavity. Calyx closed, generally in a small uneven basin. Flesh yellowish, fine grained, juicy, with a very rich, vinous, saccharine, aromatic flavour. December to April.



Hall.

Haskell Sweet.

Sassafras Sweet.

Origin farm of Deacon Haskell, Ipswich, Mass. Tree vigorous and productive, fruit medium or above, oblate. Skin greenish yellow, sometimes with a blush. Stalk short, inserted in a rather deep cavity. Calyx closed; basin of medium depth. Flesh yel lowish, tender, juicy, with a very sweet, rich, aromatic flavour. September, October.

Hawley.

Origin Columbia Co., N. Y. Tree vigorous and bears annually.

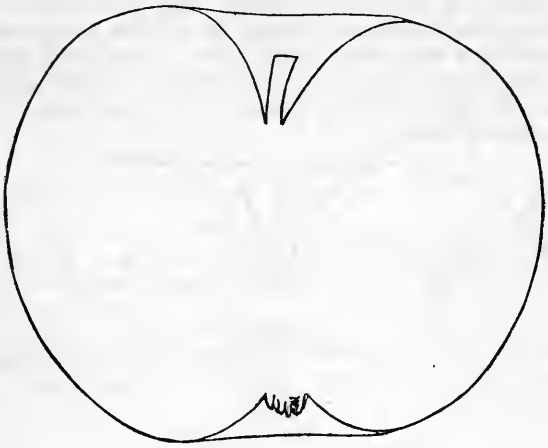
Fruit large, conic, sometimes oblate. Skin fine yellow, somewhat waxen or oily, and considerably dotted. Stalk short, inserted in a rather deep cavity. Calyx small, nearly closed, in a moderate, somewhat furrowed basin. Flesh whitish, very tender, juicy, rich, with a fine, mild, sub-acid flavour. Ripe September, and does not keep long.

Hubbardston Nonsuch. Man. Ken.

A fine, large, early winter fruit, which originated in the town

of Hubbardston, Mass., and is of first rate quality. The tree is a vigorous grower, forming a handsome branching head, and bears very large crops. It is worthy of extensive orchard culture.

Fruit large, roundish-oblong, much narrower near the eye. Skin smooth, striped with splashes, and irregular broken stripes of pale and bright red, which nearly cover a yellowish ground. The calyx open, and the stalk short, in a russeted hollow. Flesh yellow, juicy, and tender, with an agreeable mingling of sweetness and acidity in its flavour. October to January.



Jefferis.

JEFFERIS.

Origin Chester Co. Pa., growth moderate, very productive. A fair and handsome fruit of excellent quality, in use all of September.

Fruit medium, oblate, inclining to conic. Skin yellow, shaded and splashed with crimson, and thickly covered with large, whitish dots. Stem very short, inserted in a rather large cavity. Calyx closed, set in a round open basin. Flesh white, tender, juicy, with a rich, mild, sub-acid flavour. September.

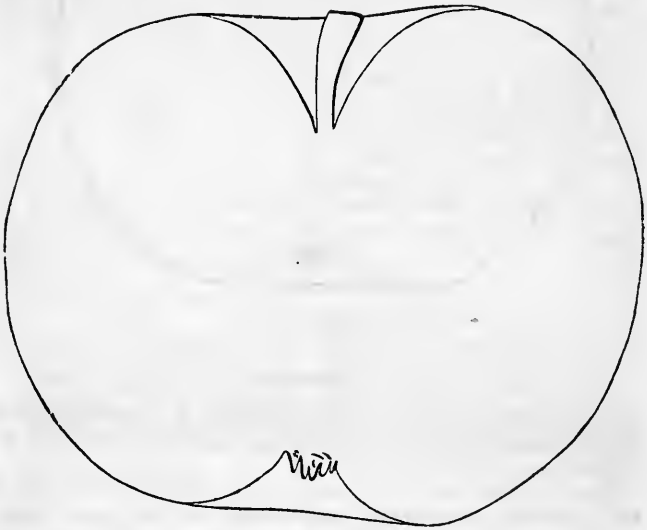
JONATHAN. Buel. Ken.

King Philip,—Philip Rick.

The Jonathan is a very beautiful dessert apple, and its great beauty, good flavour, and productiveness in all soils, unite to recommend it to orchard planters. The original tree of this new sort is growing on the farm of Mr. Philip Rick, of Kingston,

New York, a neighbourhood unsurpassed in the world for its great natural congeniality to the apple. It was first described by the late Judge Buel, and named by him, in compliment to Jonathan Hasbrouck, Esq., of the same place, who made known the fruit to him. The colour of the young wood is a lively light brown, and the buds at the ends of the shoots are large. Growth rather slender, slightly pendulous.

Fruit of medium size, regularly formed, roundish-ovate, or tapering to the eye. Skin thin and smooth, the ground clear light yellow, nearly covered by lively red stripes, and deepening into brilliant or dark red in the sun. Stalk three-fourths of an inch long, rather slender, inserted in a deep, regular cavity. Calyx set in a deep, rather broad basin. Flesh white, rarely a little pinkish, very tender and juicy, with a mild sprightly flavour. This fruit, evidently, belongs to the Spitzenburgh class. November to March.



King of Tompkins Co.

KING OF TOMPKINS COUNTY.

King Apple.

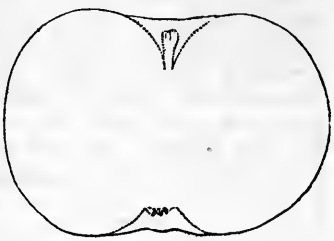
Origin uncertain; much grown in Tompkins county and the adjoining ones; said to be a valuable market fruit. Tree very vigorous, spreading, an abundant bearer annually. Fruit large, globular, inclining to conic, sometimes oblate, angular. Skin yellowish, mostly shaded with red, striped and splashed with crimson. Stalk rather stout and short, inserted in a large somewhat irregular cavity. Calyx small and closed, set in a medium

slightly corrugated basin. Flesh yellowish, coarse, juicy, tender, with an exceedingly agreeable, rich, vinous flavour, delightfully aromatic. December to March.

Lady Apple. Coxe.

Api. *O. Duh.*
Api Petit. *Thomp. Rom.*
Pomme Rose.
Pomme d'Api Rouge. *Poit.*
Petit Api Rouge, } *Nois.*
Gros Api Rouge, }

An exquisite little dessert fruit, the pretty size and beautiful colour of which, render it an universal favourite; as it is a great bearer it is also a profitable sort for the orchardist, bringing the highest price of any fancy apple in the market. It is an old French variety, and is nearly always known abroad by the name of *Api;* but the name of Lady Apple has become too universal here, to change it now. No amateur's collection should be without it.



Lady Apple.

Fruit quite small, but regularly formed and flat. Skin smooth and glossy, with a brilliant deep red cheek, contrasting with a lively lemon yellow ground. Stalk of medium length, and deeply inserted. Calyx small, sunk in a basin with small plaits. Flesh white, crisp, tender, and juicy, with a pleasant flavour. The tree has straight, almost black shoots, with small leaves; forms a very upright, small head, and bears its fruit in bunches. The latter is very hardy, and may be left on the tree till severe frosts. The Lady Apple is in use from December to May.

The Api Noir, or *Black Lady Apple*, differs from the foregoing sort only in the colour, which is nearly black. In shape, size, season, and flavour, it is nearly the same. It is, from its unusually dark hue, a singular and interesting fruit—poor flavour.

The true Api Étoilé, or *Star Lady Apple*, figured and described by Poiteau, in the Pomologie française, is another very distinct variety; the fruit is of the same general character, but having five prominent angles, which give it the form of a star. This variety is rather scarce, the common Lady Apple being frequently sent out for it by French nurserymen. It keeps until quite late in the spring, when its flavour becomes excellent, though in winter it is rather dry. The growth of the tree resembles that of the other Apis.

Large Yellow Bough. Thomp.

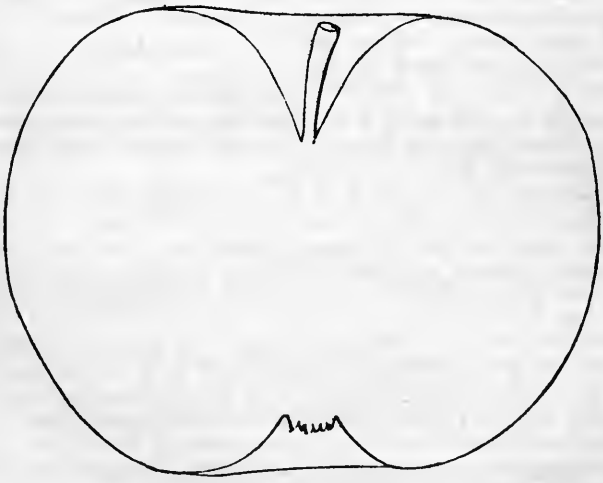
Early Sweet Bough. *Kenrick.*
Sweet Harvest.
Bough. *Coxe. Floy.*

A native apple, ripening in harvest time, and one of the first quality, only second as a dessert fruit to the Early Harvest. It is not so much esteemed for the kitchen as the latter, as it is too sweet for pies and sauce, but it is generally much admired for the table, and is worthy of a place in every collection.

Fruit above the middle size, and oblong-ovate in form. Skin smooth, pale, greenish yellow. Stalk rather long, and the eye narrow and deep. Flesh white, very tender and crisp when fully ripe, and with a rich, sweet, sprightly flavour. Ripens from the middle of July to the tenth of August. Tree moderately vigorous, bears abundantly, and forms a round head.

Long Stem of Pennsylvania.

Origin Berks county, Pa. Fruit rather below medium, globular, inclining to oblong or oval. Stalk long and slender, curved, inserted in a large cavity. Calyx small and closed, set in a somewhat furrowed basin. Skin yellowish, very much shaded, and sometimes striped with red or dark crimson. Flesh tender, juicy, crisp, with a fine rich, sub-acid flavour, spicy and aromatic. An excellent dessert fruit of the highest flavour; core large and open. November to January.



Mangum.

Mangum.

Seago,—Maxfield.

A first rate southern fruit. Specimens have been sent us from several friends. Tree thrifty and very productive.

Fruit medium, oblate, slightly conic, angular. Skin yellowish striped and mostly shaded with red, thickly sprinkled with whitish and bronze dots. Stem short and small, inserted in a broad cavity surrounded by russet. Calyx partially closed; basin slightly corrugated. Flesh yellow, very tender, juicy, mild, subacid, excellent, highly prized in Georgia and the south. October, November.* Carter of Alabama may prove the same.

McLellan.

Martin.

Origin, Woodstock, Connecticut. Tree thrifty, upright, very productive annual bearer, and handsome.

Fruit medium or above roundish, slightly conic, very regular, and fair yellow, mostly striped, marbled, and splashed with red. Stalk short, inserted in a moderate cavity. Calyx small, nearly closed; basin moderate, slightly uneven. Flesh white, very tender, juicy, with a fine vinous flavour almost saccharine. December to March.

Melon.

Norton's Melon.

Origin, East Bloomfield, N. Y. Tree of rather slow growth, a good bearer.

Fruit medium or above roundish, slightly oblate. Skin pale yellow, striped and shaded with deep red or crimson on the sunny side. Stalk rather short, inserted in a large cavity, somewhat uneven, surrounded by thin russet. Calyx closed; basin large, abrupt, open, slightly furrowed. Flesh white, tender, juicy, with a very rich refreshing subacid flavour. October to March.

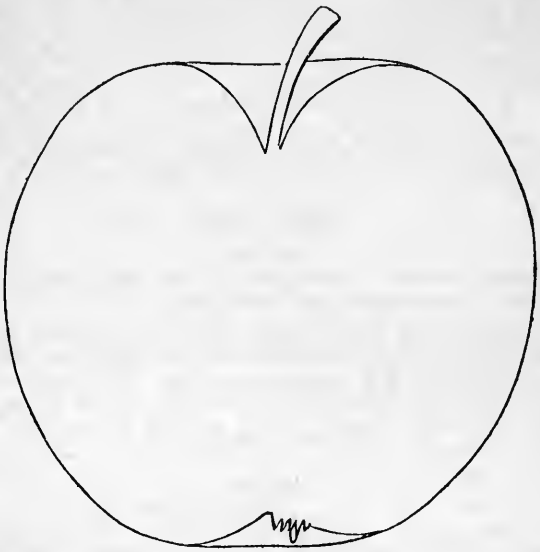
Mother.

Queen Anne.

Origin Bolton, Mass. Tree moderately vigorous and productive. Fruit medium, oval, inclining to conic. Stem long and slender, inserted in a rather deep abrupt cavity. Calyx closed, set in a small corrugated basin. Skin almost covered with deep red, thickly sprinkled with minute dots. Flesh yellowish, juicy, crisp, tender, with a very rich aromatic flavour. Last of October to January.

*The time of ripening of the southern fruits is given to suit their respective localities.

This admirable fruit is to our taste unsurpassed in flavour of any of its season, strikingly suggestive of the flavour and perfume of an excellent pear, with more of vinous life than the Vandevere (Newtown Spitzenburgh), and less acidity than the Esopus Spitzenburgh, and not inferior to either of them as a desseit fruit.



Mother.

Monmouth Pippin.

A native of Monmouth County, New Jersey, of moderate upright growth, and productive. Fruit large, oblate, a little inclining to conic, obscurely five-angled, slightly flattened at base and crown. Skin pale yellow, with a beautiful warm cheek, and numerous russet dots. Stalk rather short, inserted in a large slightly russeted cavity. Calyx partially closed; basin deep, abrupt, and corrugated. Flesh juicy, with a fine brisk aromatic flavour. November to March.

Newtown Pippin. Coxe. Thomp.

Green Newtown Pippin. American Newtown Pippin.
Green Winter Pippin. Petersburgh Pippin.

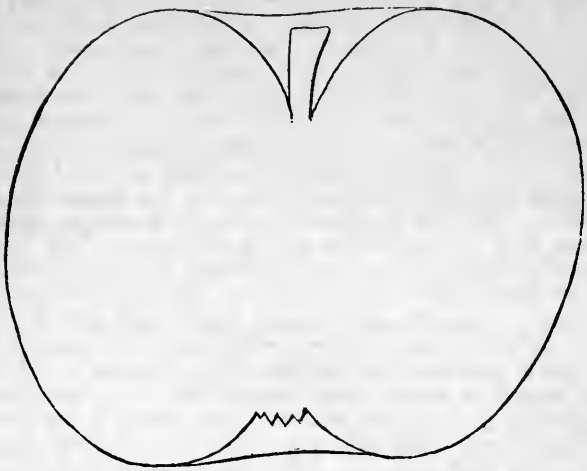
The Newtown Pippin stands at the head of all apples, and is, when in perfection, acknowledged to be unrivalled in all the

qualities which constitute a high flavoured dessert apple, to which it combines the quality of long keeping without the least shrivelling, retaining its high flavour to the last. It is very largely raised in New-York and New-Jersey for exportation, and commands the highest price in Covent Garden Market, London. This variety is a native of Newtown, Long Island, and it requires a pretty strong, deep, warm soil, to attain its full perfection, and in the orchard it should be well manured every two or three years. For this reason, while it is planted by acres in orchards in New-York and the Middle States, it is rarely raised in a large quantities or with much success in New-England. On the Hudson, thousands of barrels of the fairest and richest Newtown pippins are constantly produced. The tree is of rather slender and slow growth, and even while young, is always remarkable for its rough bark.

Fruit of medium size, roundish, a little irregular in its outline, caused by two or three obscure ribs on the sides—and broadest at the base, next the stalk; about three inches in diameter, and two and a half deep. Skin dull green, becoming olive green when ripe, with a faint, dull brownish blush on one side, dotted with small gray specks, and with delicate russet rays around the stalk. Calyx quite small and closed, set in a narrow and shallow basin. Stalk half an inch long, rather slender, deeply sunk in a wide, funnel-chapel cavity. Flesh greenish-white, very juicy, crisp, with a fine aroma, and an exceedingly high and delicious flavour. When the fruit is not grown on healthy trees, it is liable to be spotted with black spots. This is one of the finest keeping apples, and is in eating from December to May—but is in the finest perfection in March.

Newtown Pippin, Yellow. Coxe. Thomp.

The Yellow Newtown Pippin strongly resembles the foregoing, and it is difficult to say which is the superior fruit. The Yellow is handsomer, and has a higher perfume than the Green, and its flesh is rather firmer, and equally high flavoured; while the Green is more juicy, crisp, and tender. The Yellow Newtown Pippin is rather flatter, measuring only about two inches deep, and it is always quite oblique—projecting more on one side of the stalk than the other. When fully ripe, it is yellow, with a rather lively red cheek, and a smooth skin, few or none of the spots on the Green variety, but with the same russet marks at the stalk. It is also more highly fragrant before, and after, it is cut than the Green. The flesh is firm, crisp, juicy, and with a very rich and high flavour. Both the Newtown pippins grow alike, and they are both excellent bearers. This variety is rather hardier and succeeds best in the Eastern States. We have kept the fruit until the 4th of July.



Newtown Pippin, Yellow.

Northern Spy.

This beautiful new American fruit is one of the most delicious, fragrant, and sprightly of all late dessert apples. It ripens in January, keeps till June, and always commands the highest market price. The tree is of rapid, upright growth, and bears moderate crops. It originated on the farm of Oliver Chapin, of Bloomfield, near Rochester, N. Y. The trees require high culture and open heads to let in the sun, otherwise the fruit is wanting in flavour.

Fruit large, conical-flattened. Skin thin, smooth, in the shade greenish or pale yellow, in the sun covered with light and dark stripes of purplish-red, marked with a few pale dots, and a thin white bloom. Stalk three-fourths of an inch long, rather slender, planted in a very wide, deep cavity, marked with russet. Calyx small, closed; basin narrow, abrupt, furrowed. Flesh white, fine-grained, tender, slightly sub-acid, with a peculiarly fresh and delicious flavour.

Ortley.

Ortley Pippin.	White Bellflower.
Ohio Favourite.	Woodman's Song.
White Detroit.	Willow Leaf Pippin.
Greasy Pippin.	Hollow Cored Pippin.
White Pippin.	Ohio Favourite.

Origin, orchard of Michael Ortley, South Jersey.

The Ortley is one of the most widely disseminated and popular apples of the Western States. It grows pretty strongly with upright, slender shoots, and bears abundantly, and its bearing shoots are inclined to break.

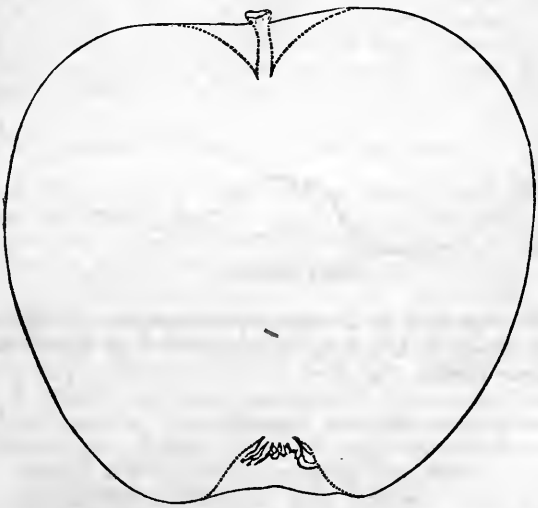
Fruit medium to very large, ovate, or conic. Skin greenish yellow, becoming fine yellow at maturity, sometimes with a sunny cheek. Stalk slender, of medium length, inserted in a deep, acute cavity, surrounded by russet. Calyx closed, set in an abrupt, somewhat corrugated basin. Flesh white, fine grained, tender, juicy, sub-acid, very pleasant. November to February. Highly esteemed at the West, but does not succeed so well at the North and East.

Pearmain, Herefordshire. Thomp.

Winter Pearmain. *Coxe.*
Royal Pearmain. *Lind. Rom.*
Pearmain Royal. *Knoop.*
Old Pearmain.
Royale d'Angleterre.

This delicious old variety, generally known here as the English or Royal Pearmain, is one of the finest of all winter dessert fruits, and its mild and agreeable flavour renders it here, as abroad, an universal favourite, both as a dessertapple, and for cooking.

Fruit of medium size, oblong, and of a pretty regular Pear-



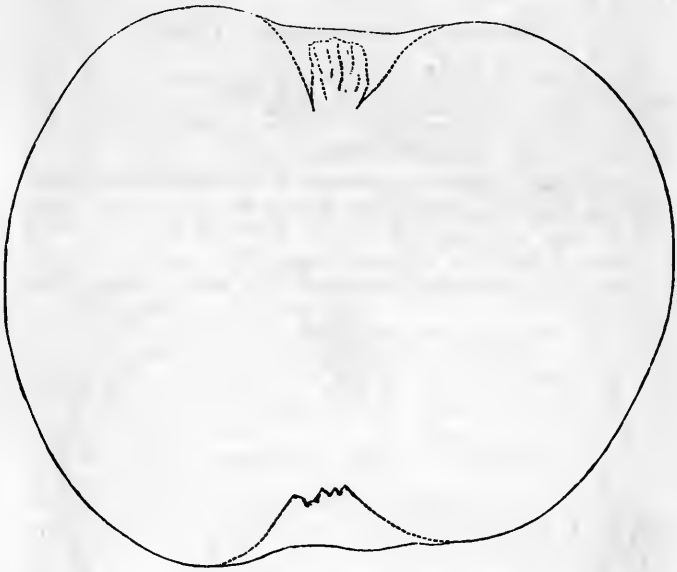
Herefordshire Pearmain.

main-shape. Skin stained, and mottled with soft, brownish red

on a dull, russety green ground, dotted with grayish specks. The red thickly mottled near the eye, with yellowish russet spots. Stalk slender, half an inch long. Calyx with wide-spread, reflexed segments, and set in a shallow, narrow, slightly plaited basin. Flesh pale yellow, very mellow and tender, with a pleasant, aromatic flavour. A moderate bearer, but often produces large crops on high soils, which are well adapted to this sort. November to February. A strong grower.

The Winter Pearmain of most American orchards, is the Autumn Pearmain of this, and most English works.

PECK'S PLEASANT.



Peck's Pleasant.

A first rate fruit in all respects, belonging to the Newtown pippin class. It has long been cultivated in Rhode Island, where we think it originated, and in the northern part of Connecticut, but as yet is little known out of that district of country, but deserves extensive dissemination. It considerably resembles the Yellow Newtown pippin, though a larger fruit with more tender flesh, and is scarcely inferior to it in flavour.

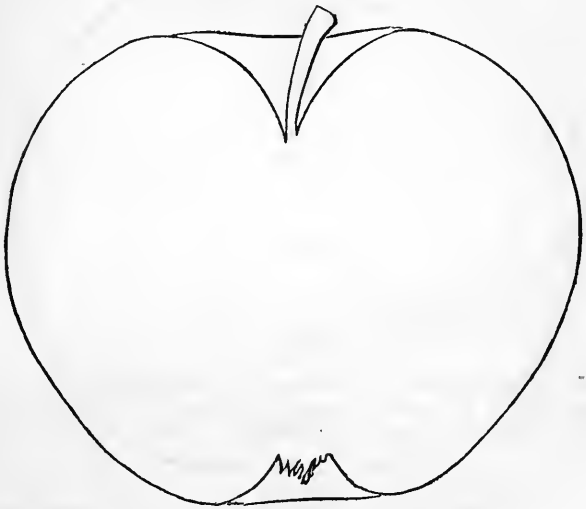
Fruit above medium size, roundish, a little angular, and slightly flattened, with an indistinct furrow on one side. Skin smooth, and when first gathered, green, with a little dark red; but when ripe, a beautiful clear yellow, with bright blush on the

sunny side and near the stalk, marked with scattered gray dots. The stalk is peculiarly fleshy and flattened, short, and sunk in a wide, rather wavy cavity. Calyx woolly, sunk in a narrow, abruptly, and pretty deeply sunk basin. Flesh yellowish, fine grained, juicy, crisp and tender, with a delicious, high aromatic flavour. The tree is only a moderate grower, but bears regularly and well, and the fruit commands a high price in the market. Mr. S. Lyman, who raises this fruit in great perfection, informs us that with him the apples on the lower branches of old trees are flat, while those on the upper branches are nearly conical. November to March.

Primate.

Rough and Ready.

Origin unknown. Tree a strong and stocky grower, and forms a beautiful head—very productive. Fruit medium, conic or oblate, angular. Skin greenish white, with a crimson blush on the exposed side. Stem of medium length, inserted in a rather large irregular cavity. Calyx closed in an abrupt, open, somewhat corrugated basin. Flesh white, very tender, sprightly



Primate.

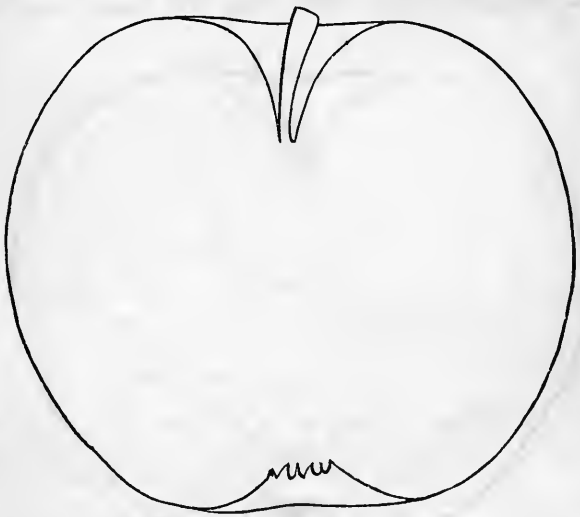
refreshing, mild sub-acid. An excellent dessert apple, ripening the last of August, and continuing in use till October.

Pomme de Neige. Thomp. Lind.

Fameus. *Forsyth.*
Sanguineus.
Snowy Chimney.

A very celebrated Canada fruit (probably an old French fruit), which has its name from the snow-white colour of its flesh, or, as some say, from the village from whence it was first taken to England. It is an excellent, productive, autumn apple, and is especially valuable in northern latitudes.

Fruit of medium size, roundish, somewhat flattened; skin with a ground of pale greenish yellow, mixed with faint streaks of pale red on the shady side, but marked with blotches and short stripes of darker red, and becoming a fine deep red in the sun; stalk quite slender, half an inch long, planted on a narrow funnel-shaped cavity; calyx small, and set in a shallow, rather narrow basin; flesh remarkably white, very tender, juicy, and good, with a slight perfume. Ripe in October and November. A regular bearer, and a handsome dessert fruit.



Progress.

Progress.

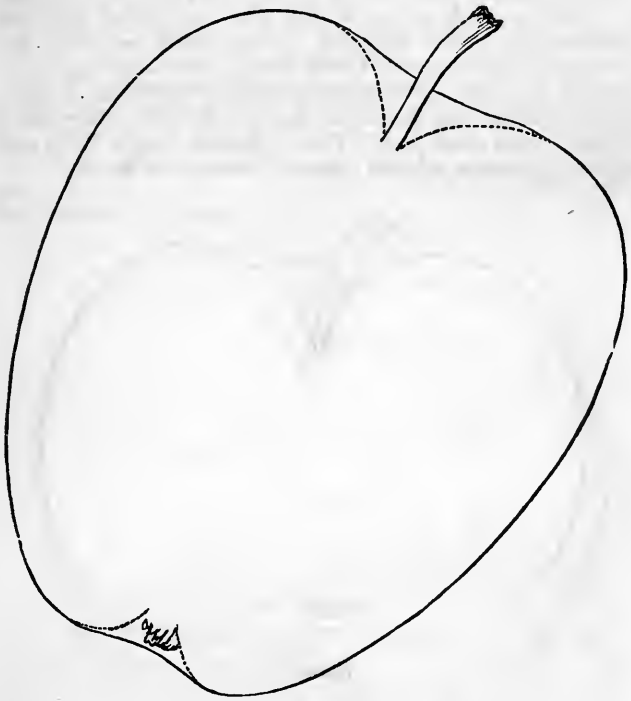
"Esquire Miller's Best Sort."

A native of Middlefield, Conn. Tree a moderate grower, and forms a handsome head, bears early and very productive. The

original tree stands on the land of Enoch Coe, formerly Isaac Miller, Esq., and for some time was called "Esquire Miller's best sort."

Size above medium, rather globular, inclining to conic, sometimes oblate, somewhat angular. Stem short, inserted in a round cavity, surrounded by russet. Calyx large, partially closed, set in a shallow, open basin. Skin smooth, yellow, with a sunny cheek, sometimes with a few scattered grey dots. Flesh solid, tender, crisp, juicy, with a very refreshing, vinous flavour. Ripe October till April.

PORTER. Man. Thomp.



Porter.

A first rate New England fruit, raised by the Rev. S. Porter, of Sherburne, Mass., and deservedly a great favourite in the Boston market. The fruit is remarkably fair, and the tree is very productive.

Fruit rather large, regular, oblong, narrowing to the eye. Skin clear, glossy, bright yellow, and when exposed, with a dull

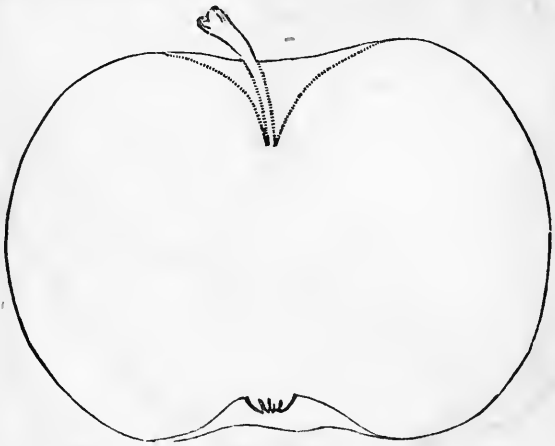
blush next the sun. Calyx set in a narrow and deep basin. Stalk rather slender, not three fourths of an inch long. Flesh fine grained, and abounding with juice of a sprightly agreeable flavour. Ripens in September, and deserves general cultivation.

Prior's Red.

Pitzer Hill.
Big Hill.

Origin unknown. Tree upright, not very vigorous, nor an early bearer, requires a deep rich soil, and a warm season or a southern climate, for the full development of its excellence.

Fruit medium, somewhat globular, oblate, obliquely depressed. Skin greenish yellow, shaded with red, striped with dark crimson, and thickly sprinkled with greenish grey dots, and some seasons much covered with russet. Stalk short and thick, inserted in a small acute cavity, surrounded by traces of russet, which sometimes considerably overspread the fruit. Calyx firmly closed, set in a small basin. Flesh yellowish, tender, juicy, with very rich, pleasant sub-acid flavour. January to March.



Rambo.

Rambo. Coxe. Thomp.

Romanite, } *of New Jersey.*
Seek-no-further, }
Bread and Cheese Apple, }

The Rambo is one of the most popular autumn fruits to be found in the Philadelphia markets. It is a highly valuable apple for the table or kitchen, and the tree thrives well on light

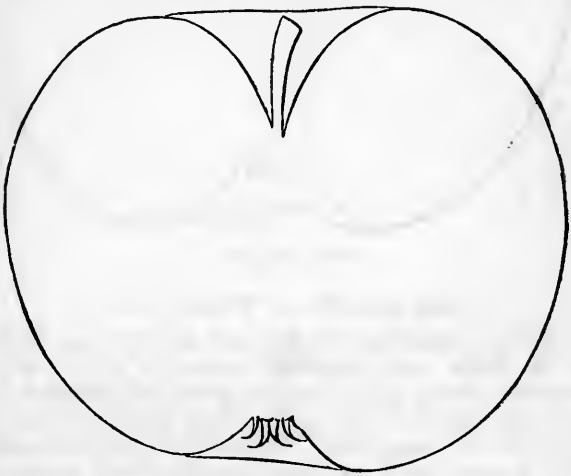
sandy soils, being a native of the banks of the Delaware. It is also very popular at the West.

Fruit of medium size, flat. Skin smooth, yellowish white in the shade, streaked and marbled with pale yellow and red in the sun, and speckled with large rough dots. Stalk long, rather slender, curved to one side, and deeply planted in a smooth, funnel-like cavity. Calyx closed, set in a broad basin, which is slightly plaited around it. Flesh greenish white, very tender, with a rich, sprightly, sub-acid flavour. October to December.

Red Russet.

Origin, farm of Mr. Sanborn, Hampton Falls, N. H. Tree very vigorous and productive.

Fruit large, roundish, conic. Skin yellow, shaded with dull red and deep carmine in the sun, and thickly covered with grey dots, with a slight appearance of rough russet on most of the surface. Stalk rather short and thick, inserted in a medium cavity, surrounded with thin russet. Calyx nearly closed; segments long, recurved in a narrow, uneven basin. Flesh yellow, solid, crisp, tender, with an excellent, rich, sub-acid flavour, somewhat resembling Baldwin. January to April.



Red Canada.

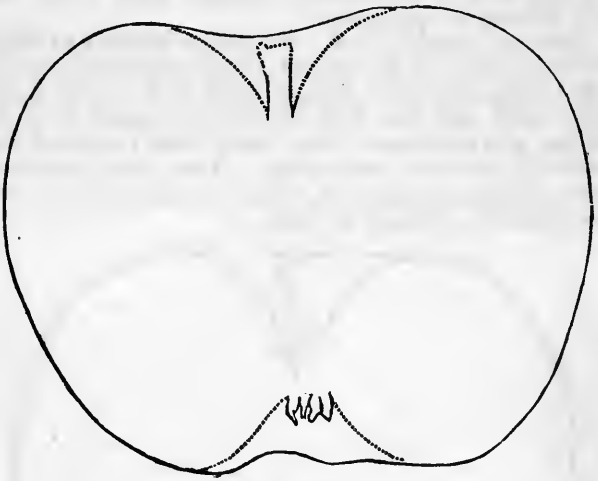
Red Canada.

Old Nonsuch, of Mass.
Richfield Nonsuch.
Steels Red Winter, of Mich.

An old fruit, formerly much grown in Connecticut and Massa-

chusetts, but is not now much planted on account of its small size and poor fruit; succeeds well in western New York, Ohio, and Michigan. Tree thrifty, but of slender growth; very productive.

Fruit medium, oblate, inclining to conic, slightly angular. Skin yellow, mostly shaded with deep red or crimson; somewhat striped or splashed on the sunny side, and thickly sprinkled with grey, and sometimes greenish dots. Stalk short, inserted in a broad, deep cavity. Calyx closed, segments long, in a small, narrow, somewhat irregular basin. Flesh white, tender, crisp, abounding with a brisk, refreshing juice, and retaining its fine, delicate flavour to the last. January to May.



Red Astrachan.

RED ASTRACHAN. Thomp. Lind.

A fruit of extraordinary beauty, first imported into England with the White Astrachan, from Sweden, in 1816. It bears abundantly with us, and its singular richness of colour is heightened by an exquisite bloom on the surface of the fruit, like that of a plum. It is one of the handsomest dessert fruits, and its quality is good, but if not taken from the tree as soon as ripe it is liable to become mealy. Ripens from the last of July to the middle of August.

Fruit pretty large, rather above the middle size, and very smooth and fair, roundish, a little narrowed towards the eye. Skin almost entirely covered with deep crimson, with sometimes a little greenish yellow in the shade, and occasionally a little russet near the stalk, and covered with a pale white bloom.

Stalk rather short and deeply inserted. Calyx set in a slight basin, which is sometimes a little irregular. Flesh quite white, crisp, moderately juicy, with an agreeable, rich, acid flavour.

Raule's Jannet.

Raule's Jannetting.	Winter Jannetting.
Rock Remain.	Jennett.
Rock Rimmon.	Neverfail.
Yellow Janett.	Indiana Jannetting.

Origin, Virginia, on the farm of Caleb Raules. Tree vigorous, spreading; it puts forth its leaves, and blossoms much later than other varieties in the spring, and consequently avoids injury by late frost; it is, therefore, particularly valuable for the south and southwest, where it is much cultivated.

Fruit rather large, oblate, considerably depressed, conic, angular. Skin yellowish, shaded with red and striped with crimson. Stalk short and thick, inserted in a broad open cavity. Calyx partially open, set in a rather shallow basin. Flesh whitish yellow, tender, juicy, with a very pleasant vinous flavour. February to March. So far has not succeeded well at the north.

Reinette Blanche D'Espagne. Thomp. Nois.

White Spanish Reinette. *Pom. Mag. Lind.*
D'Espagne.
Fall Pippin.
Large Fall Pippin.
Cobbett's Fall Pippin.
} *of some English gardens.*

A very celebrated old Spanish variety. Fruit very large, roundish-*oblong*, somewhat angular, with broad ribs on its sides, terminating in an uneven crown, where it is nearly as broad as at the base. Calyx large, open, very deeply sunk in a broad-angled, oblique, irregular basin. Stalk half an inch long, set in a rather small, even cavity. Skin smooth, yellowish-green on the shaded side, orange, tinged with brownish-red next the sun, and sprinkled with blackish dots. Flesh yellowish-white, crisp, tender, with a sugary juice. The tree has the same wood, foliage, and vigorous habit, as our Fall Pippin, and the fruit keeps a month longer. This is quite distinct from Fall Pippin.

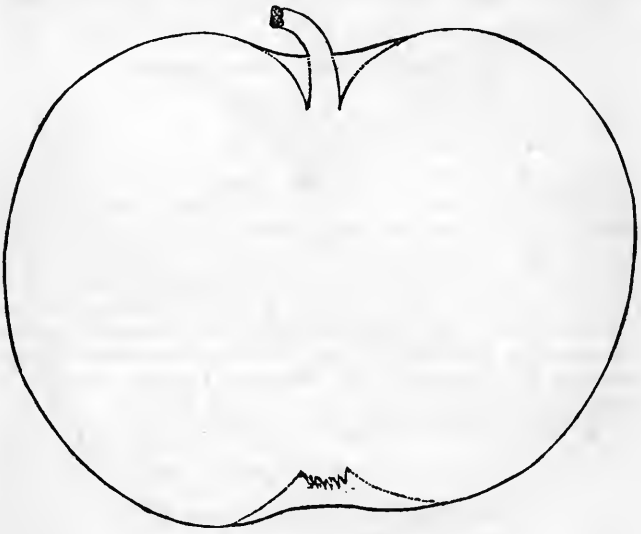
Reinette, Canada. Thomp. Nois.

Canadian Reinette. *Lind.*
Grosse Reinette d'Angleterre. *O. Duh.*
Pomme du Caen.
Reinette du Canada Blanche.
Reinette Grosse du Canada.
Reinette du Canada à Cortes.
} *of various European collections.*
De Bretagne.
Portugal.
Januarea.
Wahr Reinette.

It is easy to see that the Canada Reinette is a popular and

highly esteemed variety in Europe, by the great number of synonyms under which it is known. It is doubtful, notwithstanding its name, whether it is truly of Canadian origin, as Merlet, a French writer, describes the same fruit in the 17th century; and some authors think it was first brought to this continent from Normandy, and carried back under its new name. At any rate, it is a very large and handsome fruit, a good bearer, and of excellent quality in all respects. It is yet little known in the United States, but deserves extensive orchard culture.

Fruit of the largest size, conical, flattened; rather irregular, with projecting ribs; broad at the base, narrowing towards the eye, four inches in diameter, and three deep. Skin greenish-yellow, slightly washed with brown on the sunny side, sprinkled with dots and russet patches. Stalk short, inserted in a wide hollow. Calyx short and large, set in a rather deep, irregular basin. Flesh nearly white, rather firm, juicy, with a rich, lively, sub-acid flavour. Ripe in December, and, if picked early in autumn, it will keep till April.



Rhode Island Greening.

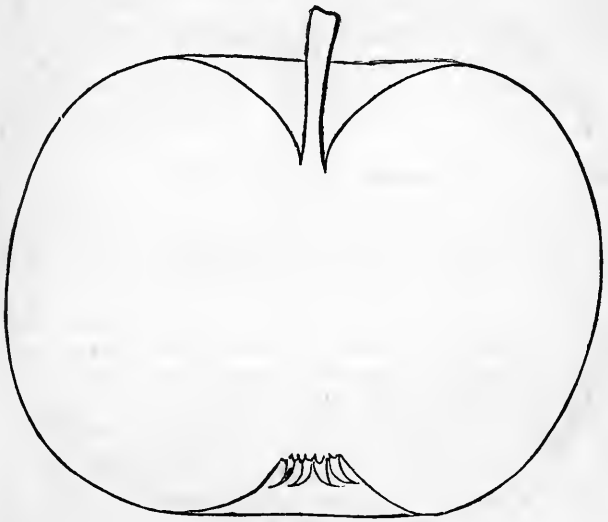
RHODE ISLAND GREENING. Coxe. Thomp. Man.

Burlington Greening. Jersey Greening? *Coxe.*

The Rhode Island Greening is such an universal favourite and is so generally known, that it seems almost superfluous to give a description of it. It succeeds well in almost all parts of the

country, and on a great variety of soils, and is, perhaps, more generally esteemed than any other early winter fruit. In the Eastern States where the Newtown pippin does not attain full perfection, this apple takes its place—and in England, it is frequently sold for that fruit, which, however, it does not equal. [The *Green* Newtown Pippin described by Lindley is this fruit.]

Fruit large, roundish, a little flattened, pretty regular, but often obscurely ribbed. Skin oily smooth, dark green, becoming pale green when ripe, when it sometimes shows a dull blush near the stalk. Calyx small, woolly, closed, in a slightly sunk, scarcely plaited basin. Stalk three-fourths of an inch long, curved, thickest at the bottom. Flesh yellow, fine grained, tender, crisp, with an abundance of rich, slightly aromatic, lively, acid juice. The tree grows very strongly, and resembles the Fall pippin in its wood and leaves, and bears most abundant crops. The fruit is as excellent for cooking as for the dessert. November to February—or, in the North, to March. In some localities at the West does not succeed, in others very good.



Richard's Graft.

RICHARD'S GRAFT.

Derrick's Graft. Red Spitzenburgh.
Strawberry. Wine.

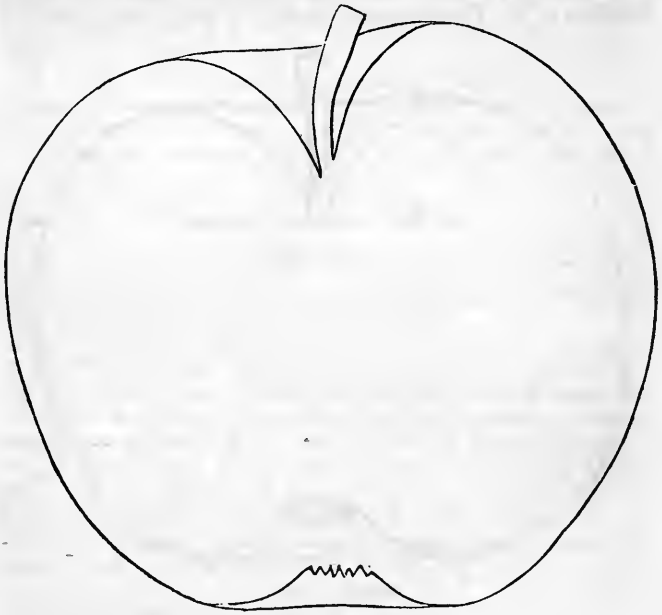
A very excellent fall apple well worthy of cultivation. Origin, uncertain, supposed to be Ulster County, N. Y. An old fruit, but little known—lately introduced by E. G. Studley,

Claverack, Columbia, County, N. Y.—a free upright grower, a good bearer, and one of the best dessert apples of its season.

Size rather above medium, oblate. Stem nearlly an inch long. Cavity deep and broad. Calyx closed, segments recurved, basin deep. Colour yellow, mostly striped with red. Flesh fine-grained, tender, juicy, pleasant, with a refreshing vinous flavour. September and October.

RICHMOND.

Origin, D. C. Richmond, Sandusky, Ohio.—Tree a free grower, and a profuse bearer. Fruit large, oblate, slightly angular. Skin light yellow, striped, splashed and marbled with crimson, and thickly sprinkled with light brown dots. Stem short, inserted in a broad deep cavity slightly russeted. Calyx open, set in a large furrowed basin. Flesh white, tender, juicy, vinous, sweet, and rich. October to February.



Rome Beauty.

ROME BEAUTY.

Gillett's Seedling.

Origin, Southern Ohio. Tree a moderate grower, succeeds well at the South-west.

Fruit large, roundish, approaching conic. Skin yellow, shaded and striped with bright red, and sprinkled with light dots. Stem an inch long, inserted in a large, deep cavity, surrounded by greenish russet. Calyx partially closed, set in a narrow, deep basin. Flesh yellowish, tender, juicy, sprightly sub-acid. Core rather large. October to December.

Roman Stem. Coxe.

The Roman Stem is not generally known out of New-Jersey. It originated at Burlington, in that State, and is much esteemed in that neighbourhood. In flavour, it belongs to the class of sprightly, pleasant apples, and somewhat resembles the Yellow Belle Fleur. Tree very productive.

Fruit scarcely of medium size, roundish-oblong—or often ovate. Skin whitish-yellow, with a faint brownish blush, sprinkled with patches of small black dots, and, when ripe, having a few reddish specks, unless the fruit is very fair. Stalk three-fourths of an inch long, inserted in a shallow cavity under a fleshy protuberance, which the farmers have likened to a Roman nose, whence the name. Calyx set in a rather narrow basin, with a few plaits. Core hollow. Flesh tender, juicy, with a rich, pleasant, musky flavour. November to March.

Russet, American Golden.

Golden Russet. *Man, Ken.*
Sheep Nose. } *Coxe.*
Bullock's Pippin. }
Little Pearmain.

The American Golden Russet is one of the most delicious and tender apples, its flesh resembling more in texture that of a buttery pear, than that of an ordinary apple. It is widely cultivated at the West, and in New-England as the Golden Russet, and though neither handsome nor large, is still an universal favourite from its great productiveness and admirable flavour. The uncouth name of Coxe, *Sheep-nose*, is nearly obsolete, except in New-Jersey, and we therefore adopt the present one, to which it is well entitled. The tree is thrifty, with upright *drab* coloured shoots.

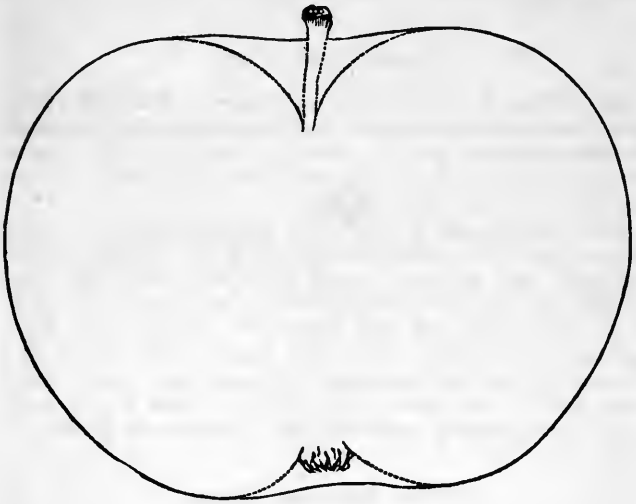
Fruit below medium size, roundish-ovate. Skin dull yellow, sprinkled with a very thin russet. Stalk rather long and slender. Calyx closed, and set in a rather narrow basin. Flesh yellowish, very tender, (almost melting,) juicy, with a mild, rich, spicy flavour. October to January.

The English Golden Russet is a sub-acid sort, much inferiour to the above.

Russet, Boston or Roxbury. Man. Thomp.

Roxbury Russeting. *Ken.*

This Russet, a native of Massachusetts, is one of the most popular market fruits in the country, as it is excellent, a prodi-



Boston Russet.

gious bearer, and keeps till late in the spring. It is in every way highly deserving extensive cultivation.

Fruit of medium size, often larger roundish, a little flattened, and slightly angular. Skin at first dull green, covered with brownish-yellow russet when ripe, with, rarely, a faint blush on one side. Stalk nearly three-fourths of an inch long, rather slender, not deeply inserted. Calyx closed, set in a round basin, of moderate depth. Flesh greenish-white, moderately juicy, with a rather rich, sub-acid flavour. Ripens in January, and may be brought to market in June.

There are several native varieties of Russet or "Leather Coats," of larger size than the foregoing, but they are much inferiour, being apt to shrivel and become tasteless. Does not succeed well in all localities at the West.

Smokehouse.

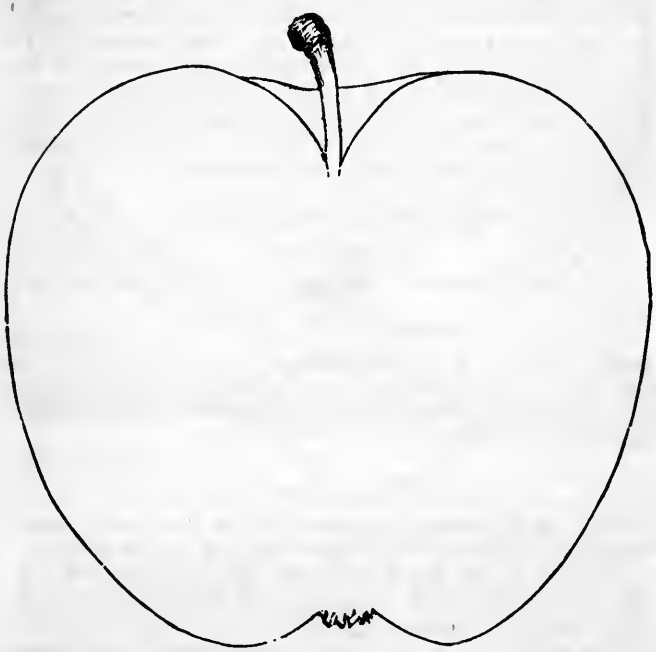
Millcreek Vandevere.
English Vandevere.

Origin, Lancaster Co., Pa., near Millcreek, grew on the farm

of a wealthy Quaker named Gibbons, near his smokehouse, hence its name. An old variety and popular in Pennsylvania. It somewhat resembles the old Pennsylvania Vandevere, and is supposed to be a seedling of it.

Tree moderately vigorous, with a spreading head, a good bearer.

Fruit rather above medium, oblate, skin yellow, shaded and splashed with crimson, and thinly sprinkled with large grey and brown dots. Stalk rather long, curved, inserted in a broad cavity. Calyx closed, set in a wide basin, of moderate depth, slightly corrugated. Flesh yellowish, somewhat firm, juicy, crisp, rather rich, sub-acid. September to February. Unsurpassed for culinary uses.



Esopus Spitzenburgh.

SPITZENBURGH, ESOPUS. Coxe.

Æsopus Spitzenberg. *Thomp. Lind.*
Æsopus Spitzenburg. *Ken.*
True Spitzenburgh.

The Esopus Spitzenburgh is a handsome, truly delicious apple, and is generally considered, by all good judges, equal to the

Newtown Pippin, and unsurpassed as a dessert fruit, by any other variety. It originated at Esopus, a famous apple district, originally settled by the Low Dutch, on the Hudson, where it is still raised in its highest perfection. But throughout the whole of New York, it is considered the first of apples, and its beauty and productiveness render it highly profitable for orchard culture. The fruit of this variety brought from Western New-York, seems deficient in flavour, which is, perhaps, owing to the excessive richness of the soil there. The tree has rather slender shoots, and when in bearing, has long and hanging limbs.

Fruit large, oblong, tapering roundly to the eye. Skin smooth, nearly covered with rich, lively red, dotted with distinct yellowish russet dots. On the shaded side is a yellowish ground with streaks and broken stripes of red. Stalk rather long,—three-fourths of an inch—and slender, projecting beyond the base, and inserted in a wide cavity. Calyx small, and closed, set in a shallow basin, which is slightly furrowed. Flesh yellow, rather firm, crisp, juicy, with a delicious rich, brisk flavour. Seeds in a hollow core. December to February.

Summer Rose. Thomp. Coxe.

Woolman's Harvest.

A very pretty and very excellent apple, highly esteemed as a dessert fruit.

Fruit scarcely of medium size, roundish. Skin smooth, rich waxen yellow, streaked and blotched with a little red on the sunny side. Stalk rather short, and slender. Calyx closed, set in an even basin. Flesh tender, abounding with sprightly juice. Ripens early in August.

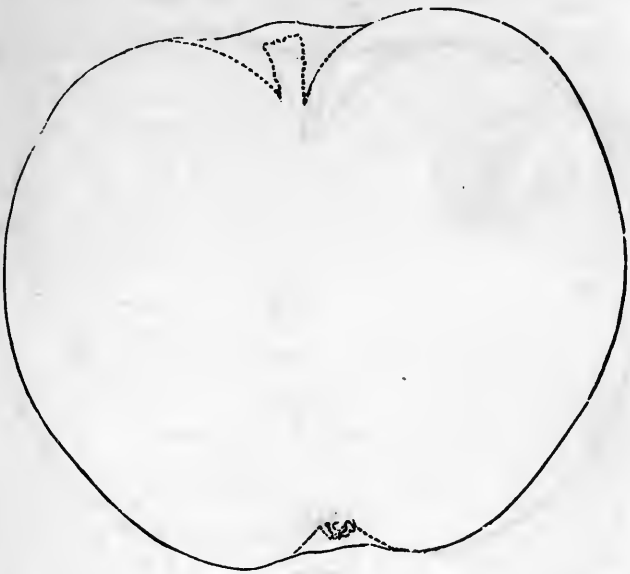
Sweeting, Ladies'.

The Ladies' Sweeting we consider the finest winter sweet apple, for the dessert, yet known or cultivated in this country.

Its handsome appearance, delightful perfume, sprightly flavour, and the long time which it remains in perfection, render it universally admired wherever it is known, and no garden should be without it. It is a native of this neighbourhood, and thousands of trees of this variety have been sent from this garden, to various parts of the Union. The wood is not very strong, but it grows thriftily, and bears very abundantly.

Fruit large, roundish-ovate, narrowing pretty rapidly to the eye. Skin very smooth, nearly covered with red in the sun, but pale yellowish-green in the shade, with broken stripes of pale red. The red is sprinkled with well marked, yellowish-gray dots, and covered, when first gathered, with a thin white bloom. There is also generally a faint marbling of cloudy white over

the red, on the shady side of the fruit, and rays of the same around the stalk. Calyx quite small, set in a narrow, shallow,



Ladies' Sweeting.

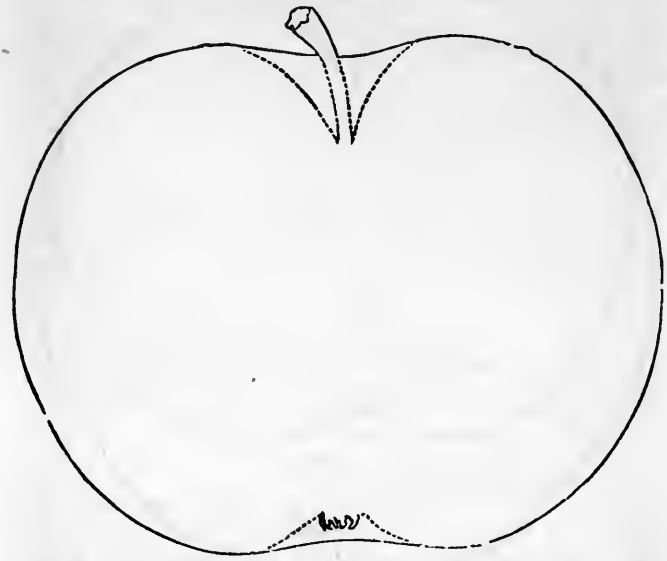
plaited basin. Stalk half an inch long, in a shallow cavity. Flesh, greenish-white, exceedingly tender, juicy and crisp, with a delicious, sprightly, agreeably perfumed flavour. Keeps without shrivelling, or losing its flavour, till May.

Swaar. Coxe. Floy. Thomp.

This is a truly noble American fruit, produced by the Dutch settlers on the Hudson, near Esopus, and so termed, from its unusual weight, this word, in the low Dutch, meaning *heavy*. It requires a deep, rich, sandy loam, to bring it to perfection, and, in its native soils, we have seen it twelve inches in circumference, and of a deep golden yellow colour. It is one of the finest flavoured apples in America, and deserves extensive cultivation, in all favourable positions, though it does not succeed well in damp or cold soils.

Fruit large, regularly formed, roundish. Skin greenish-yellow when first gathered, but when entirely ripe, of a fine, dead gold colour, dotted with numerous distinct brown specks, and sometimes faintly marbled with gray russet on the side, and round the stalk. Stalk slender, three fourths of an inch long,

inserted in a very round cavity. [Sometimes this cavity is partially closed.] Calyx small, greenish, set in a shallow basin—



Swaar.

scarcely plaited. Flesh yellowish, fine grained, tender, with an exceedingly rich, aromatic flavour, and a spicy smell. Core small. The trees bear fair crops, and the fruit is in season from December to March.

Vandevere of New York.

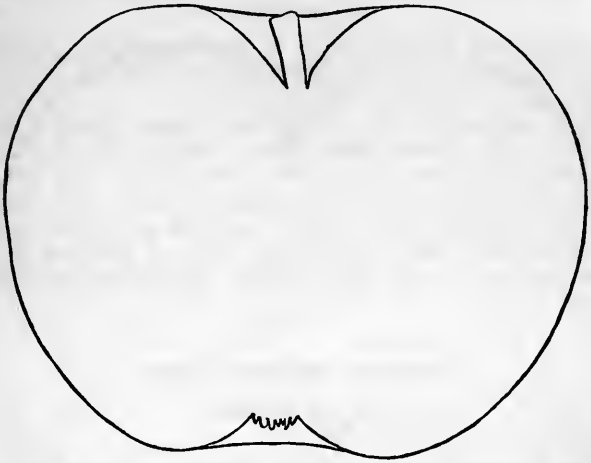
Newtown Spitzenburgh. Ox Eye.
Joe Berry.

We have retained the name, under which we have long known our very favourite apple, although we are persuaded it does not belong to it. It appears to be clearly proved that it did not originate in Delaware, but that it had its origin in Newtown, Long Island, and was described by Coxe, by the name of Newtown Spitzenburgh; but is has so long borne the name of Vandevere, that we think it not practicable to restore its true name, and therefore propose to call it Vandevere of New York.

Tree moderate, vigorous and productive, in rich, light soil, of most excellent fruit, which is suited to more tastes than any other apple of its season.

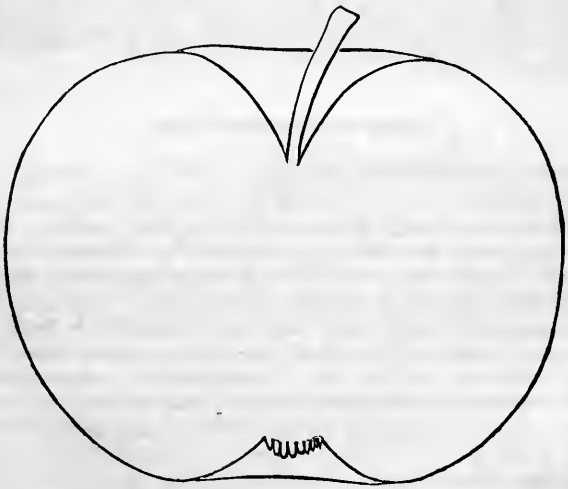
Fruit medium, oblate, slightly conic. Skin fine yellow, washed

with light red, striped and splashed with deeper red, and richly shaded with carmine on the sunny side, covered with a light



Vandevere of New York.

bloom, and sprinkled with peculiar grey specks. Stalk short, inserted in a wide cavity. Calyx small, closed, set in a regular basin of moderate depth. Flesh yellow, crisp, tender, with a rich, sprightly, vinous flavour, scarcely sub-acid. October to February.



Wagener Apple.

Wagener.

Origin, Penn Yan, Yates Co., N. Y. Tree, thrifty, upright; requires thinning to produce good flavoured fruit; when grown in the shade, is wanting in flavour.

Fruit medium, or above, irregularly oblate, angular. Skin white, mostly shaded with crimson, obscurely striped, and sprinkled with light dots. Stalk nearly an inch long, rather slender, inserted in a large, broad, irregular cavity. Calyx small and closed, set in a rather abrupt somewhat corrugated basin. Flesh yellowish, very tender, juicy, with an excellent brisk vinous flavour. A very delicate apple. Ripe November to February.

Westfield Seek-no-further.

Connecticut Seek-no-further.
Seek-no-further.

The *Westfield Seek-no-further* is the Seek-no-further of Connecticut, and is an old and highly esteemed variety of that district. It has a pearmain flavour.

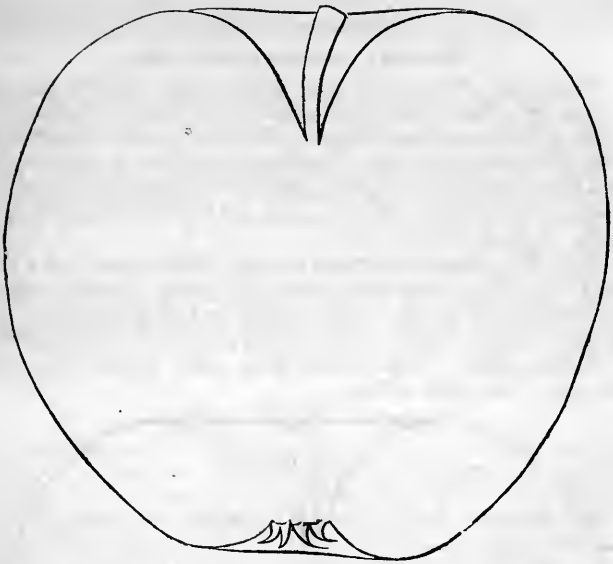
Fruit large, pretty regularly round. Skin pale, or dull red over a pale clouded green ground—the red sprinkled with obscure russety yellow dots. Stalk very slender, three-fourths of an inch long, inserted in an even cavity. Calyx closed, or with a few reflexed segments, and set in an even basin of moderate depth. Flesh white, fine grained, tender, with a rich, pearmain flavour. A first rate fruit. October to February.

White Winter Pearmain.

Origin unknown, by some thought to be an old eastern variety, highly esteemed at the west, for all purposes. Specimens sent us by Henry Avery, and others, were of the best quality. Tree spreading, hardy, and thrifty, a regular and good bearer.

Fruit medium, or above, oblong, conic, somewhat oblique. Stalk short, inserted in a deep round cavity. Calyx nearly closed, segments long, basin uneven, surrounded by five prominences, which are continued in obscure angles along its sides. Skin pale yellow, with a slight blush or warm cheek, thickly sprinkled with minute brown dots. Flesh yellowish, tender, crisp, juicy, with a very pleasant subacid flavour. January to April.

Winter Harvey in many respects is similar to the above, and may prove so.



White Winter Pearmain.

William's Favourite. Man. Ken.

William's Early. William's Red.

A large and handsome dessert apple, worthy of a place in every garden. It originated at Roxbury, near Boston, bears abundantly, and ripens from the last of July to the first of September. An excellent market variety.

Fruit of medium size, oblong, and a little one-sided. Stalk an inch long, slender, slightly sunk. Calyx closed, in a narrow angular basin. Skin very smooth, of a light red ground, but nearly covered with a fine dark red. Flesh yellowish-white, and of a very mild and agreeable flavour. Requires a strong rich soil

Winter Pippin of Geneva.

An apple bearing the above local name, was found growing in the garden of Mrs. Crittendon, and is deserving of notice. The appearance of the tree and fruit is strikingly like that of the Fall pippin, but is a very late keeper, continuing in perfection until May.

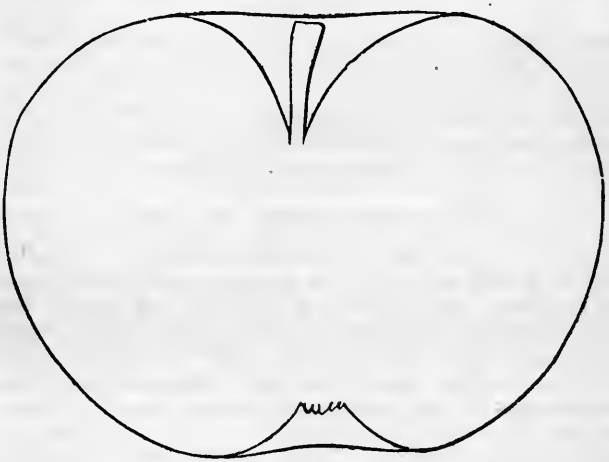
Fruit large, oblate, slightly angular. Skin fine yellow with a crimson cheek, sparsely covered with grey dots. Stalk short and small, inserted in a narrow cavity. Calyx open, segments long, basin open. Flesh yellow, tender, juicy, vinous, excellent. June to May.

Winesap. Coxe.

Wine Sop ? *Thomp.* Potpie Apple.

This is not only a good apple for the table, but it is also one of the very finest cider fruits, and its fruitfulness renders it a great favourite with orchardists. The tree grows rather irregularly, and does not form a handsome head, but it bears early, and the apples have the good quality of hanging late upon the trees, without injury, while the tree thrives well on sandy, light soils. Valuable at the west.

Fruit of medium size, rather oblong. Skin smooth, of a fine dark red, with a few streaks, and a little yellow ground, appearing on the shady side. Stalk nearly an inch long, slender, set in an irregular cavity. Calyx small, placed in a regular basin, with fine plaits. Flesh yellow, firm, crisp, with a rich, high flavour. November to May.



Wood's Sweet.

Wood's Sweet.

Hyde's Sweet.

Specimens of this handsome fruit were sent us by J. M. Ketchem, of Brandon, Vt., who says it originated with David Wood Sudbery, of that state, and is there considered the best fall sweet apple in cultivation; growth nearly equal to Baldwin, as large and as fair as R. I. Greening, and productive.

Fruit large, irregularly oblate. Skin whitish, yellow, waxen, or oily, shaded and striped with fine rich red. Stalk rather short, inserted in a broad deep furrowed cavity. Calyx small, closed, set in a rather deep open basin. Flesh white, tender,

juicy, almost melting with a delightful rich saccharine flavour. September, November.

CLASS II.

Comprises those that are generally of "very good" quality, many of which however are new and untested, and may on further trial rank as "best," while others may not prove worthy of this class.

Abbott's Sweet.

From N. Hampshire. Rather above medium size, conic. Skin yellow, covered with red stripes and blotches, and many white dots. Flesh white, tender, juicy, and pleasant. Ripe December to March.

Adams.

Originated with James Adams, Union Co., Pa., large, roundish, oblate, faintly mottled, and striped with red on a greenish yellow ground. Stem rather short and thick, cavity broad, acute. Calyx rather large, segments closed, basin wide, moderately deep plaited. Flesh greenish white, of fine texture, rather juicy, flavour pleasant. January to April. (Ad. Int. Rep.)

Agnes's.

Origin, Lancaster Co., Pa., specimens received of Jonathan Baldwin, Downingtown, Pa. Fruit rather below medium, oblate, somewhat oblique. Skin yellowish, striped and shaded with red, and sprinkled with light brown dots. Stem short and small, inserted in a large cavity. Calyx closed, in a medium basin. Flesh tender, with a spicy, pleasant, sub-acid flavour. September, October.

Ailes.

A native of Chester Co., Pa., of vigorous growth, and productive. Fruit large, oblate, skin yellowish, shaded and striped with red. Stem short, cavity narrow. Calyx in a round moderate basin. Flesh yellow, fine, crisp, juicy, with a rich vinous flavour, highly esteemed for cooking, not in eating till spring, and will keep till mid-summer.

Allum.

Hallum. Rockingham Red.

Much grown in northern N. Carolina, valuable chiefly for its keeping properties. Fruit medium, oblate, irregular. Skin deep red. Flesh whitish, crisp, tender, juicy, with a brisk acid flavour. January to April.

Anglo-American.

Raised by W. H. Read, Canada West. Tree vigorous and productive. Fruit medium, roundish, conic, slightly angular, Skin yellowish, marbled, striped and splashed with bright red. Stalk short, rather slender, inserted in a cavity of moderate depth. Calyx large and open in a moderate basin. Flesh white, tender, juicy, sweet, slightly aromatic, excellent. August, September.

Aromatic Carolina.

Origin, Pomaria, S. Carolina. Fruit large, oblate, conic, oblique, pale red, slightly streaked, with a heavy bloom. Flesh exceedingly tender and melting, flavour highly aromatic and excellent, season last of June and all of July. An abundant bearers. (W. Summer in Hort.)

Ashland.

Origin, unknown. Tree upright, moderate grower, a good and annual bearer, received from Robt. Buchanan of Cincinnati. Fruit medium, approaching conic, truncate, angular. Skin yellowish, striped and shaded with carmine, and considerably sprinkled with large light dots. Stem small and short, inserted in a large open cavity surrounded by greenish russet. Calyx open, set in a round abrupt basin. Flesh yellow, tender, juicy, with a very pleasant, mild, sub-acid flavour. January and February.

Ashmore.

Red Ashmore. Fall Wine?

Fruit large, oblate, inclining to conic. Skin whitish, oily, shaded and washed with crimson, and sprinkled with light dots beneath the skin. Stem very short, cavity broad and very deep, russeted. Calyx partially closed, set in a deep open basin. Flesh white, tender, juicy, with a very pleasant vinous flavour, somewhat aromatic. October, November.

Aunt Hannah.

Origin, Essex Co., Mass. Tree of slow growth. Fruit medium, oblate, nearly globular. Skin golden yellowish, sprinkled with russet. Stem short, inserted in a cavity surrounded by russet. Calyx closed, basin very shallow. Flesh yellow, fine grained, with a rich peculiar flavour, slightly musky. December to February.

Autumn Pearmain. Thomp.

Summer Pearmain. *Lind. Miller, P. Mag.*
Winter Pearmain, *of the Middle States.*
Parmain d' Eté. *Knoop.*

A slow growing tree, but attains a large size. Fruit of me-

dium size, oblong, narrowing gradually towards the eye. Skin brownish yellow, mixed with green on the shaded side, but next the sun reddish, blended with yellow, streaked with deeper red, and sprinkled with numerous small brown specks. Stalk short, obliquely planted under a fleshy lip. Calyx set in a broad shallow basin, which is sometimes scarcely at all sunk, and obscurely plaited. Flesh pale yellow, crisp, firm, a little dry, but rich and high flavoured. Branches slender. This most excellent old dessert fruit is the "Winter Pearmain" of most old American orchards, and is a great favourite with many amateurs.

October and November, and keeps till March.

Autumn Pippin.

From Vermont.—Origin unknown. Tree vigorous, a regular bearer. Fruit above medium, oblong, conic. Skin yellow, with a slight bronzed cheek sparsely covered with green dots. Stem very short, cavity deep. Calyx closed, in a deep narrow basin. Flesh whitish, juicy, tender, pleasant, subacid. November and January.

American Beauty.

Sterling Beauty.

Origin Sterling, Mass., received from O. V. Hills. Tree vigorous and productive. Fruit above medium, globular, somewhat elongated. Colour chiefly deep red, thickly dotted with light grey. Stalk medium, inserted in a rather deep round cavity. Calyx closed, basin broad and shallow. Flesh white, crisp, and juicy, with a sweet, rich, vinous flavour. December to April.

Autumnal Swaar.

Grown at the West. Fruit large, roundish, conic. Skin yellow, sprinkled with star-shaped dots. Stalk rather short, cavity broad, deep, slightly russeted. Calyx small and closed, basin deep, abrupt, and corrugated. Flesh yellow, juicy, tender, with a pleasant, rich, mild, subacid flavour. September.

Autumnal Sweet Swaar.

Sweet Swaar. Sweet Golden Pippin.

Fruit large, oblate, sometimes very slightly ribbed. Skin rich yellow. Stalk an inch or more long, variable; cavity and basin wide and slightly ribbed. Flesh tender, yellowish, not juicy, with a very sweet, spicy, agreeable flavour. Mid. autumn.

Growth vigorous, shoots diverging, tree spreading. One of the finest autumn sweet apples. (J. J. T.)

Averill.

Wolf's Den.

Origin Pomfret, Conn. Tree vigorous, productive.

Fruit rather large, irregularly conic, angular. Skin greenish, yellow striped, and shaded with red. Stem short and stout, inserted in a narrow cavity. Calyx closed, set in a very shallow, slightly furrowed basin. Flesh whitish, tender, juicy, with a pleasant sub-acid flavour. February to June.

Bachelor.

King.

A native of western North Carolina, a vigorous grower and an excellent fruit.

Fruit very large, oblate, angular. Skin lemon yellow, ground washed with lively red, sometimes obscurely striped. Stem very short, inserted in a large cavity, russeted. Calyx small, open, basin broad and deep. Flesh white, very tender, fine grained, quite juicy, with a rich, sub-acid flavour. October, November.

Baer.

From Charles Kessler, Berks Co., Pa. Size below medium, roundish, oblong. Skin mottled with red, and striped with dark crimson, on a greenish-yellow ground, with numerous grey dots. Stem long, inserted in a wide, deep cavity. Calyx closed, set in a moderately wide, shallow, plaited basin. Flesh tender, fine texture, flavour pleasant, quality "very good." April. (Ad. Int. Rep.)

Bailey's Spice.

The original tree is growing in the nursery of John W. Bailey, Plattsburgh, N. Y. Moderately vigorous and productive.

Fruit medium, roundish, ovate, conic. Skin light yellow, sometimes with a faint blush. Stem large, inserted in a rather deep cavity. Calyx closed, basin moderate. Flesh fine grained, tender, juicy, spicy, rich, sub-acid. Middle of September to middle of October.

Bailey's Sweet.

Edgerly's Sweet. *Howard's Sweet.*
Paterson's Sweet.

From Perry, Wyoming Co., N. Y., probably an old variety from the East, growth vigorous, productive, much prized by many.

Fruit large, conic, approaching oblong. Skin yellowish, mostly shaded and obscurely striped with red, and thickly sprinkled with minute dots. Stem short and rather small, inserted in a narrow cavity. Calyx small, closed, set in a narrow, irregular basin. Flesh tender, not very juicy, almost melting, with a honied, sweet flavour. November to March.

Bailey's Golden.

Origin, Kennebec Co., Maine. Tree productive. Fruit large, oblong, flattened at base and crown. Skin yellowish, slightly russeted, with a warm cheek. Stem short, surrounded by russet in a broad deep cavity. Calyx arge and open, basin shallow. Flesh white, with a pleasant sub-acid flavour. January to March.

Barbour.

Originated with J. Barbour, Lancaster Co., Pa. Size medium roundish, oblate, inclining to conical. Skin mottled, and striped with red of different hues on a greyish ground, with numerous grey specks. Stem rather short, in a moderately deep rather narrow cavity. Calyx small, closed, set in a shallow plaited basin. Flesh yellowish, white, tender, juicy, flavour pleasant, quality very good. (Ad. Int. Rep.)

Baker's Sweet.

Winter Golden Sweet.
Long Stem Sweet.
Late Golden Sweet.

An old fruit of Holland and New London Counties, Conn., and much cultivated there. Fruit medium, roundish, of a golden yellow colour, with some patches of russet. Stem long, inserted in a broad shallow cavity. Calyx closed, in a moderate basin. Flesh yellow, rather coarse, exceedingly saccharine and pleasant. November, December.

Baltimore.

Raised by Mr. Smith, near Baltimore. Fruit very large, roundish, oblate, slightly angular. Skin pale yellow, with a faintly washed check, thickly sprinkled with brown dots. Stem short, in a medium cavity. Calyx closed, basin shallow. Flesh yellowish, rather compact, juicy, and pleasant, sub-acid. September, October.

Bars.

Origin, Rhode Island. Fruit rather large, round, pale yellow, marbled, and nearly covered with red and a few russet spots.

Stem long, slender, cavity narrow and deep. Calyx large, open, in a broad shallow furrowed basin. Flesh whitish, remarkably tender, juicy, rich, mild, and pleasant. Last of August and September. (Cole.)

Barrett.

Origin, Kensington, Conn. Fruit medium to large, conic. Skin yellow, striped and splashed with carmine. Stem short and thick, inserted in a deep cavity surrounded by russet. Calyx partially closed, set in a rather large basin. Flesh yellow, juicy, tender, with a very pleasant vinous aromatic flavour, almost sweet. January to March.

Beauty of Kent. Thomp. Lind. Ron.

A showy English sort for culinary uses. The tree grows very strong and upright, moderately productive. Fruit very large, roundish, but flat at the base, and narrowing distinctly to the eye, where it is slightly ribbed. Skin smooth, greenish-yellow, marked with large, broken stripes of purplish red. Stalk short, slender, deeply planted in a round, russeted, corrugated cavity. Calyx small, set in a narrow basin. Flesh juicy, crisp, tender, with a simple sub-acid flavour. October and November.

Beauty of the West. Ken.

A large, showy, sweet apple, of fair flavour.

Fruit large, round and regularly shaped. Skin smooth, light greenish-yellow, marked with small stripes of red. Stalk short, set in a round cavity. Flesh tender, juicy, sweet, and pleasant. A fall fruit, but may be kept for some time.

Beefsteak.

Garden Apple.

Origin farm of Joel Davis, Amesbury, Mass. Habits similar to Baldwin, very productive.

Fruit medium, oblate, inclining to oval. Skin yellow, marbled, striped and splashed with red. Stem short, inserted in a broad, deep cavity. Calyx closed, basin shallow. Flesh yellowish, tender, with a mild, pleasant, sub-acid flavour. October, November.

Belle et Bonne.

Tenor Hills.

A large, fine apple, having a great reputation in the vicinity of Hartford, Conn., a vigorous grower and productive.

Fruit very large, oblong or oblate. Skin golden yellow, thickly

sprinkled with small dots. Stem short, inserted in a broad, deep cavity, surrounded by thin russet. Calyx closed, basin moderate and uneven. Flesh yellow, coarse, juicy, with a pleasant, rather rich, sub-acid flavour. October to March.

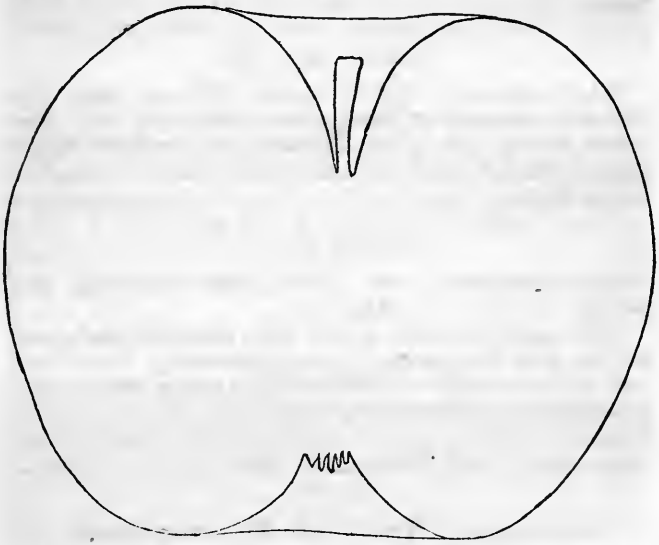
Belle-Fleur, Brabant. Thomp. Ron.

The Brabant Belle-Fleur is a new variety from Holland. The habit of the tree is spreading, and it requires to be grafted high to make a good head.

Fruit large, roundish-oblong, slightly ribbed. Skin pale yellow, much striped with red. Calyx large, set in a pretty wide, irregular basin. Flesh firm, juicy, with a rich, pleasant, sub-acid flavour. October to January.

Belden Sweet.

Grown in Connecticut, very prolific. Fruit medium, or below conic, angular. Skin light yellow with a warm cheek. Stem medium, in an acute, deep cavity. Calyx closed, in a small basin. Flesh white, tender, juicy, saccharine, with a pleasant, aromatic flavour. December to March.



Ben Davis.

Ben Davis.

J. S. Downer, of Elkton, Todd Co., Kentucky, has furnished

us with the following description and outline, which he says is one of the finest apples he ever met with, and is supposed to have originated in that county. Tree of vigorous growth, a constant and abundant bearer.

Fruit large, roundish, narrowing a little to the eye. Skin beautifully striped, splashed and marbled with bright red, on yellowish ground. Stalk short, deeply inserted in a deep, narrow, somewhat uneven cavity. Calyx closed, in an angular deep basin. Flesh white, sometimes slightly tinged with red, tender, juicy, with a mild, sub-acid, very pleasant flavour. Season winter and spring.

Berry.

Pound. *Red Hazel.*

Origin Virginia or North Carolina. Tree vigorous, upright, very productive, and a valuable market fruit.

Fruit rather above medium, obliquely depressed. Skin striped, and splashed with red, on a greenish yellow ground, with large dots, having a dark centre. Stem short, in a generally broad deep cavity. Calyx open, basin shallow and uneven. Flesh rather coarse, juicy, with a pleasant, sub-acid flavour. November to March.

Benoni. Man. Ken.

This excellent early apple is a native of Dedham, Mass. The fruit is of medium size, nearly round. Skin deep red. Flesh yellow, tender, and of an agreeable rich, sub-acid flavour. Ripens during the whole month of August, and is a good and regular bearer.

Betsy's Fancy.

Origin unknown, a free grower, rather spreading, good bearer.

Fruit scarcely medium, oblate. Skin yellowish, shaded with dull red. Stem short, inserted in a moderate cavity. Calyx closed, basin shallow and uneven. Flesh compact, tender, pleasant, mild, sub-acid flavour. December to March.

Better than Good.

Juicy Bite.

Origin uncertain. Tree thrifty, but rather slender; very productive. Fruit medium, oblate. Skin pale yellow, with a few brown dots. Stem short, inserted in a broad cavity. Calyx closed, basin large and open. Flesh yellowish, very tender, juicy, with a mild, pleasant, subacid flavour. November to January. (Trans. A. P. S.)

Bentley's Sweet.

From Virginia. Tree moderately vigorous, hardy, good bearer, great keeper, valuable in the south in rich soils. Fruit, above medium, oblong, irregular, flattened at ends, red and yellow striped or blotched. Stem long, curved. Calyx large, basin open, deep, furrowed. Flesh yellowish, firm, tender, juicy, very good. September to January. (Elliott.)

Bevan's Favourite.

Origin Salem, New Jersey, where it is a favourite. Tree vigorous and productive. Fruit medium, oblate, slightly conic. Skin yellow, striped and splashed with red. Flesh white, firm, crisp, subacid. August.

Black Coal.

Welcome.

Tree vigorous, very productive. Fruit rather large, roundish. Skin deep red almost black, with a slight bloom, and many white dots. Flesh white, slightly tinged with red, tender, agreeable, not very juicy. November to February.

Bledsoe Pippin.

Raised by John Bledsoe of Carroll Co., Kentucky. Growth moderate, rather spreading, productive, a promising winter apple for the south. Fruit very large, regular, roundish, flattened at the base, tapering to the apex. Skin greenish yellow, very obscurely striped. Stem short, cavity deep, slightly russeted. Calyx partly closed, in a somewhat furrowed basin. Flesh white, fine texture, crisp, juicy, with a mild pleasant sub-acid flavor, "very good." December to April. We are indebted for the above description to the Ky. Horticultural Society reports.

Blockley.

Origin, near Philadelphia. Growth upright, moderate, a good bearer. Fruit medium or large, roundish, flattened, angular. Skin fine yellow, sometimes with a faint blush, thinly sprinkled with brown dots. Stem short, rather stout, inserted in a deep cavity. Calyx partially closed, set in a broad, deep, corrugated basin. Flesh yellowish, compact, rich, sprightly, mild sub-acid. November to January.

Blakely.

Origin, Pawlet, Vermont, on the farm of Mr. Blakely. Vigorous, upright growth, regular bearer.

Fruit large, regularly oblate, slightly conic. Skin yellow, with a sunny cheek, thinly sprinkled with reddish dots. Stem small and short, inserted in a broad cavity of moderate depth. Calyx nearly closed, basin small and shallow. Flesh tender, juicy, with a very pleasant, mild, sub-acid flavour. January, March.

Boalsburg.

A seedling of Centre Co., Pa. Large, oblong, inclining to conical, delicately mottled, and striped with red on a yellow ground. Stem short, thick, inserted in a deep acuminate russeted cavity; basin deep, moderately wide. Flesh yellow, juicy, sprightly, and refreshing. Quality very good. February. (Ad. Int. Rep.)

Bonum.

Magnum Bonum.

Raised by Squire Kinney, Davidson Co., N. Carolina. Tree hardy and vigorous, an early and abundant bearer.

Fruit large, oblate, colour light to dark red, basin and cavity shallow. Stem medial length. Flesh yellow, sub-acid, rich, and delicious. (G. W. Johnson, Ms.)

Bourassa.

A foreign variety, succeeds well at the north, apt to shrivel and does not keep well.

Fruit medium, roundish, conic, ribbed. Skin yellowish, rich orange russet on the sunny side. Stem rather long, in a deep uneven cavity. Calyx closed, segments large, basin very small. Flesh white, sometimes stained, tender, with a pleasant aromatic flavour. November, December.

Bowling's Sweet.

Raised by Louis Bowling, Spottsylvania county, Va., and introduced by H. R. Roby, Fredericksburgh, Va. A very vigorous grower and very productive.

Fruit medium, roundish. Colour dull red, on a yellow ground. Flesh rich, juicy, sweet, and entirely free from acid. October to January. (H. R. Roby, Ms.)

Bowker.

Tree vigorous, rather spreading, good bearer. Fruit medium, roundish, flattened, slightly conic, angular. Skin pale yellow,

tinged with crimson, sparsely covered with brown, and grey dots. Stem short, slender, inserted in a medium cavity. Calyx, closed in a somewhat shallow, corrugated basin. Flesh white, tender, juicy, pleasant, mild, sub-acid. October.

Brennaman.

Origin, Lancaster county, Pa. Raised by Mr. Brennaman.

Fruit rather above medium size, yellowish, nearly covered with red stripes. Stem short, in a large cavity. Calyx closed in a deep basin. Flesh white, tender, juicy, with a pleasant, sub-acid flavour; excellent for cooking. August—September.

Briggs's Auburn.

Origin, Auburn, Maine. Fruit large, oblate, very much depressed. Skin light yellow, with a slight blush on the sunny side. Stem rather long, in a very large cavity. Basin broad and shallow. Flesh fine, white, with a very pleasant, sub-acid flavour. Tree hardy and productive. September, October. (Me. P. S. Report.)

Brittle Sweet.

Origin unknown; good grower, and very productive.

Fruit above medium, roundish, approaching conic, sometimes elongated, angular. Skin greenish yellow, shaded and splashed with crimson, sprinkled with grey dots. Stem short, inserted in a broad, shallow cavity. Calyx closed, set in a small corrugated basin. Flesh yellowish, crisp, tender, juicy, sweet, and excellent. September, October.

Brookes' Pippin.

Origin, farm of Wm. Brookes, Essex county, Va. Tree vigorous, upright, bearing abundantly every year.

Fruit large, roundish, inclining to conical, obscurely ribbed, greenish yellow, with a faint blush. Stem short, rather stout, inserted in a deep, irregular, russet cavity. Basin small, shallow, waved, sometimes furrowed. Flesh crisp, juicy, of fine texture, with a pleasant aroma quality. November to March. (Ad. Int. Rept.)

Bucks County Pippin.

Origin, farm of M. Moon, Morrisville, Bucks Co., Pa. Tree upright, moderately vigorous and productive.

Fruit large, roundish, rather obliquely depressed. Skin greenish yellow, sometimes with a blush. Stalk short, in a large cavity. Calyx closed, basin wide, deep, slightly corrugated, Flesh tender firm, juicy, slightly sub-acid. (M. Moon, Ms.)

Buchanan's Pippin.

Buchanan's Seedling.

Raised by Robert Buchanan, of Cincinnati, O., from whom we received specimens. Tree vigorous and very productive.

Fruit medium, oblate, very much flattened, slightly angular. Skin yellowish, somewhat waxen, deeply shaded with maroon, sometimes very obscurely striped and thickly covered with light conspicuous dots. Stalk very short and small, surrounded by thin scaly russet, inserted in a large cavity. Calyx partially closed, set in a round abrupt basin, slightly ribbed. Flesh greenish, very solid, crisp and juicy, with a fine, refreshing, sub-acid flavour. March, April.

Buckingham.

Supposed to have originated with the Cherokee Indians, Cass Co., Ga. Tree vigorous, erect, productive.

Fruit large, oblate, inclining to conic, angular. Skin greenish yellow, shaded, striped and splashed with crimson, and thickly sprinkled with white and grey dots. Stem very short, inserted in a broad, deep cavity, surrounded by russet. Calyx closed, in a large, deep, irregular basin. Flesh yellow, juicy, tender, with a brisk, rich, sub-acid flavour. October, November.

Buck Meadow

Origin, Norwich, Conn., productive. Fruit above medium, globular, slightly conic. Skin yellow, marbled and streaked with red. Stem short, in a deep, abrupt cavity, thinly surrounded by russet. Calyx small, closed, in an open basin. Flesh yellowish, tender, juicy, with a rather rich, pleasant, vinous flavour. November to March.

Buffington's Early.

Origin said to be on the Brandywine, Pa. Tree of good growth, bears moderately.

Fruit medium or below, oblate, angular. Skin yellowish white, sometimes a faint blush. Stalk short, cavity large. Calyx closed, basin shallow, slightly corrugated. Flesh tender, juicy, with a sprightly, sub-acid flavour. Middle of August.

Bullet.

Green Abram. *N. C. Greening.*

Extensively cultivated on the line of Virginia and North Carolina, where it is esteemed for its late keeping and productiveness.

Fruit medium, small, roundish Skin greenish yellow, striped and mottled with light and dark red, and sprinkled with large light dots. Stalk short, set in a small cavity, often by a lip. Calyx closed, basin deep. Flesh tender, juicy, with a pleasant, sub-acid flavour. January to April.

This is said to be distinct from Abram, Father Abram, or Red Abram, and also Father Abraham of Coxe. Further trial is necessary to decide.

Buff.

Granny Buff.

Origin uncertain. Tree vigorous, erect. Fruit very large, irregular, roundish flattened and slightly angular. Skin thick, yellow, striped, and shaded with red, very dark next the sun, marked with a few greenish russet spots. Stem three-fourths of an inch long, in a medium cavity. Calyx in a large, irregular basin. Flesh white, and when well ripened, tender and excellent, sometimes indifferent. November to March. (White's Gard.)

Burr's Winter Sweet.

Raised by Elisha Burr, Hingham, Mass., a good grower, comes early into bearing, productive.

Fruit medium, oblate. Skin yellow, marbled and striped with red. Stem short, inserted in a large cavity. Calyx closed, basin small. Flesh yellowish, fine grained, tender, juicy, with a sugary, aromatic flavour. November to March.

Bush.

Origin, farm of Christian Dale, near Boalsburs, Centre Co., Pa. Rather above medium, oblate, inclining to conical, greenish yellow, with many russet dots near the crown, and occasionally a faint blush. Stem nearly an inch long, inserted in a deep, open, furrowed cavity. Calyx very small, set in a deep, narrow plaited basin, flavour pleasant. September. (Ad. Int. Rep.)

Butter.

From Pennsylvania.—Tree, vigorous, upright, very productive.

Fruit, above medium, roundish, inclining, and cylindric. Skin yellow, fair. Stem short, cavity deep and round Calyx small, closed, basin large and open. Flesh whitish, very sweet and rich, valuable for cooking, and esteemed for making apple butter. September and October.

Caleb Sweet.

A Pennsylvania fruit. Tree vigorous and productive.

Fruit medium, roundish, flattened. Skin yellow. Flesh ra-

ther fine, very sweet, excellent for cooking. Last of August and first of September.

Cullasaga.

Raised by Miss Ann Bryson, Macon Co., N. Carolina.—Good grower, and a standard winter fruit for the south.

Fruit medium or large, roundish, inclining to oval, flattened at base, and crown. Skin yellowish, mostly shaded and striped with dark crimson, and sprinkled with whitish dots. Stem small and short, inserted in a deep cavity, surrounded by russet. Calyx open, set in a shallow corrugated basin. Flesh yellow, tender, juicy, with a very mild, rich, almost saccharine flavour. January to April.

Cannon Pearmain.

Tree vigorous, spreading and productive; much grown in N. Carolina, and some portions of the West.

Fruit medium, roundish, conic. Skin yellow, striped and marbled with red. Stem medium, in a small cavity. Calyx small, closed, basin abrupt. Flesh yellowish, firm, with a rich, pleasant, vinous flavour, resembling Pearmain. December to February.

Camak's Sweet.

Camak's Winter Sweet. Grape Vine.

Origin Macon Co., N. Carolina.

Fruit medium, roundish, obliquely conic. Colour whitish green, with a warm cheek. Stem rather long, inserted in a deep, narrow cavity. Calyx open, in a broad, shallow basin. Flesh juicy, firm, not very tender, with a rather rich aromatic flavour. November, to May and June.

Capron's Pleasant.

Fruit medium or above, roundish oblate. Skin greenish yellow with a brownish tinge. Stem, rather stout, inserted in an open cavity. Calyx large, in a medium basin. Flesh yellow, juicy, tender, mild, subacid, and very agreeable. September to October.

Caroline.

Origin premises of A. G. Baldwin, Hanover, New Jersey. Tree, vigorous and productive.

Fruit medium, oblate, angular. Skin yellowish, mostly shaded with maroon, obscurely striped, and thickly covered with light dots. Stalk three quarters of an inch long, inserted in a cavity surrounded by green russet with rays. Calyx,

closed, set in a shallow, uneven basin. Flesh, greenish, tender, juicy, with a mild, pleasant, subacid flavour. January to April.

Carolina Red June.

Red June. Blush June.

Origin, somewhat uncertain, supposed to be Carolina. Tree very vigorous, upright, an early and abundant bearer, much esteemed at the south and south-west as their best early apple, ripe a few days after Early Harvest, not equal to it in flavour but more profitable as an orchard fruit.

Fruit medium or below, oval, irregular, inclining to conic. Skin smooth, nearly the whole surface shaded with deep red and almost of a purplish hue on the sunny side, and covered with a light bloom. Stem variable in length, inserted in a small narrow cavity. Calyx closed, segments long, reflexed, basin narrow plaited. Flesh very white, tender, juicy, with a brisk sub-acid flavour.

Carolina Striped June. Willson's June. This is claimed to be distinct from the above, because the fruit is striped, whilst the other is always shaded. The growth of the tree, form, flavour of the fruit, and time of ripening similar. Not having seen this we are not able to decide.

Carnahan's Favorite.

Origin, Southern Ohio. Tree vigorous, productive. Fruit large, roundish, conic. Skin yellowish, striped and shaded with red and much sprinkled with green or russet dots. Stalk of medium length, cavity large. Calyx large, segments long, in a corrugated basin. Flesh fine grained, juicy, with a very pleasant vinous flavour. December to March.

Carter.

Royal Pippin.

Origin, farm of Nath. Carter, Leominster, Mass. A vigorous grower and productive.

Fruit above medium, roundish, oval. Skin yellow, slightly shaded, striped, and marbled with red. Stem short, inserted in a deep cavity. Calyx closed, set in a large basin. Flesh tender, almost melting, with a very mild, pleasant flavour. October to January.

There is also a Carter Apple of Virginia, and another of Alabama, but we have not seen them and they may prove synonymous.

Carnation.

Fruit medium size, a delicious sub-acid apple, fully first-rate,

dark red splashed with russet. Flesh white, brittle, and very juicy. Both the calyx and stem are sunk in deep depressions. No autumn apple is superior. 10th of August. (White's Gard.)

Caywood.

Origin, Ulster Co., N. Y., valuable for its late keeping.

Fruit medium, oblate. Skin bright yellow, with a tinge of red on the sunny side. Stalk rather long in a broad shallow cavity. Calyx small, closed, basin broad and wrinkled. Flesh yellowish, rather firm, pleasant, but not juicy or rich. Keeps until July or September.

Chandler.

We received this fine variety, which is a great favourite in Connecticut, from the Rev. H. S. Ramsdell, of Thompson, in that state.

Fruit large, roundish, slightly flattened, and one-sided or angular in its form; obscurely ribbed on its sides. Skin thickly streaked and overspread with dull red, (with a few streaks of bright red) on a greenish yellow ground; the red sprinkled with light grey dots. Stalk short, deeply sunk in a wide cavity. Calyx small and closed, set in a plaited, wide basin. Core and seeds small. Flesh greenish white, tender, juicy, with a moderately rich, sub-acid flavour. The tree is one of moderate vigour, and is a great bearer. November to February.

Challenge.

Raised by D. C. Richmond, Sandusky, Ohio. A thrifty grower, and exceedingly productive, hence its name.

Fruit large, oblate, slightly conic. Skin deep yellow, sprinkled with brownish dots. Stem rather slender, in a very large cavity. Calyx closed, in deep corrugated basin. Flesh crisp, tender, juicy, sweet, very good. October to June.

Champlain.

Tree moderately vigorous, productive. Fruit large, roundish, conic. Skin greenish, with a fine blush. Stem long, cavity deep. Calyx closed, basin narrow. Flesh white, tender, juicy, pleasant, sub-acid. September.

Chester.

Origin, Chester Co., Pa., specimens from Thos. Howey.

Fruit medium, oblate. Skin whitish yellow, sometimes with a sunny cheek and sprinkled with carmine dots. Stalk short, inserted in a broad shallow cavity. Calyx closed, set in a broad

open basin. Flesh crisp, tender, juicy, with a pleasant sub-acid flavour. November, December.

Christiana.

Origin, on the premises of John R. Brinckle, near Wilmington, Delaware. Size medium, roundish, inclining to conical. Skin beautifully striped, and mottled with carmine on a yellowish ground. Stem half an inch long, inserted in a deep rather narrow cavity. Calyx partially closed, set in a deep moderately wide plaited basin. Flesh yellowish white, fine texture, juicy. Flavour pleasant, delicate, sprightly, vinous, quality "very good." November. (Int. Rep.)

Churchill Greening.

Origin uncertain. Tree vigorous and productive.

Fruit large, oblate, somewhat conic, ribbed, angular. Skin yellowish green, shaded with dull red, and thickly sprinkled with green dots. Stem rather long, slender, cavity broad. Calyx closed, basin deep, somewhat furrowed. Flesh yellow, tender, granular, with a brisk, vinous, almost saccharine flavour. December to February.

Clarke Pearmain.

Gloucester Pearmain. Golden Pearmain.

From N. Carolina, an old variety. Tree of slow growth, very productive. Fruit medium, roundish, conical. Skin greenish yellow, shaded and marbled with red and russet dots. Stalk very short, cavity small. Calyx closed, basin small. Flesh yellow, rather firm, crisp, rich, sub-acid, excellent, pearmain flavour. December.

Clyde Beauty.

Mackie's Clyde Beauty.

Raised by Mr. Mackie, Clyde, Wayne Co., N. Y. Tree vigorous, upright, very productive.

Fruit large, roundish, conic, angular. Skin greenish, oily, sprinkled and mottled with dull red and bright red in the sun. Stem short, slender, inserted in an acute cavity. Calyx closed, set in a small corrugated basin. Flesh white, tender, juicy, with a brisk sub-acid flavour. October to January.

Cole. Thomp. Lind. Ron.

Scarlet Perfume. Duling?

A variety from England of second quality, but admired for its beauty of appearance.

Fruit large, roundish, conic, and slightly angular. Skin nearly covered with deep crimson on a yellowish ground, or sometimes entirely red, with a little russet. Stalk long, woolly, planted in a cavity broad and deep. Calyx large, in a broad basin. Flesh white, rather firm, juicy, with a somewhat rich and agreeable flavour. August.

Cole's Quince.

Large to very large; flattish conical; ribbed; bright yellow, seldom a brown cheek. Flesh, when first ripe, firm, juicy, pleasant acid, and first rate for cooking; when mellow, very tender, of a mild, rich, high quince flavour. July to September. A good grower, good and constant bearer. Raised by the late Capt. Henry Cole, Cornish, Maine.—(*Cole.*)

Conway.

Fruit medium, oblate, obscurely angular. Skin greenish yellow, sparsely covered with brown dots. Stem short, cavity broad and shallow. Calyx closed in a corrugated basin. Flesh crisp, juicy, with a high, vinous, aromatic flavour. January to February.

Cooper.

Beauty Red. Lady Washington.

Origin unknown; supposed to be an old Eastern variety, as yet unrecognised. Thrives well at the West, and much esteemed there by many. Growth vigorous, upright, productive. Fruit large, roundish, oblate, sides unequal. Skin greenish yellow, with a few stripes and splashes of bright red, thickly sprinkled with brown dots. Stem short, inserted in a deep cavity, slightly russeted. Calyx small, closed, basin deep. Flesh tender, juicy, vinous, with a pleasant but not high flavour. October to December.

Cooper's Market.

Cooper's Redling.

Tree vigorous, upright, with long, slender branches. Productive and a late keeper.

Fruit medium, oblong, conic. Skin yellowish, shaded with red, and striped with crimson. Stem short, cavity deep, narrow. Calyx closed, basin small. Flesh white, tender, with a brisk, sub-acid flavour. December to May.

Cornish Gilliflower. Thomp. Lind. Ron.

Cornish July-flower. Pomme Regelans. Red Gilliflower?

This is considered one of the highest flavoured apples in England; it is rather a shy bearer.

Fruit medium size, ovate, narrowing much to the eye, where it is ribbed. Skin dull green, or dark yellowish green, with a sunny side of brownish red, intermixed with a few streaks of richer red. Calyx large, set in a very narrow, furrowed or knobby basin. Stalk three-fourths of an inch long. Flesh yellowish, firm, with a rich, high flavour, and a slight perfume. November to April.

Cornell's Fancy.

Cornell's Favourite.

From Pennsylvania. Tree vigorous and productive.

Fruit medium, oblong, conical. Skin waxen yellow, shaded and splashed with crimson. Stalk of medium length, cavity rather large. Calyx closed, abrupt corrugated. Flesh white, tender, crisp, juicy, with a pleasant sub-acid flavour. September.

Cos, or Caas. Ken. Buel.

A native of Kingston, N. Y., where it is productive, and highly esteemed.

Fruit large, one-sided or angular, roundish, broad and flattened at the stalk, narrowing a good deal to the eye. Skin smooth, pale greenish yellow in the shade, but red in the sun, with splashes and specks of bright red, and a few yellow dots. Flesh white, tender, with a mild, agreeable flavour. December to March.

Court-pendu Plat. Thomp.

Court-pendu. *Lind. P. Mag. Noisette.*
Court-pendu plat rugeatre. *Ron.*
Capendu. *O. Duh.*
Garnon's Apple,
Court-pendu Extra,
Rond Gros,
Rose,
Musqué,
Rouge Musqué,
Coriandre Rose,
Pomme de Berlin,
Wollaton Pipin,
Russian,
Princesse Noble Zoete,
} *of various European collections, according to Thompson.*

A popular French variety.

Fruit of medium size, regularly formed, and quite flat. Skin rich, deep crimson on the sunny side, with a little pale greenish yellow in the shade. Stalk short, inserted in a very deep cavity. Calyx large, set in a wide shallow basin. Flesh yellow, crisp, with a rich, brisk, acid flavour. The tree bears young and plentifully. November to February.

Court of Wick. Thomp. Rond.

Court of Wick Pippin. *Lind. P. Mag.*
Court de Wick. *Hooker.*
Rival Golden Pippin,
Fry's Pippin,
Golden Drop,
Wood's Huntingdon,
Transparent Pippin,
Philip's Reinette,
Knightwick Pippin,
Week's Pippin,
Yellow,
} *of various English nurseries.*

A highly flavoured English dessert apple of the Golden Pippin class, which does not succeed well with us.

Fruit below the middle size, regularly formed, roundish-ovate, somewhat flattened. Skin greenish yellow in the shade, but becoming a warm orange, with a little red, and dotted with small russet brown specks in the sun. Flesh yellow, crisp, and juicy, with a high, poignant flavour. October to February.

Cranberry Pippin.

This strikingly beautiful apple was found growing on a farm near Hudson, N. Y. It is only second rate, in point of flavour—about equal to Hawthornden—but it is an excellent cooking apple, and its beautiful appearance and great productiveness, will, we think, render it a popular variety for market.

Fruit above medium size, very regularly formed, a little flattened. Skin very smooth, of a fine clear yellow in the shade, with a bright scarlet cheek. Flesh white, moderately juicy, with a mild, sub-acid flavour. November to February.

Cracking.

Origin, farm of Henry Barger, Harrison county, Ohio. Tree vigorous and productive, highly esteemed where known.

Fruit fair, large, roundish, slightly flattened, inclining to conic, angular. Skin fair fine yellow, with a slight tinge of red, thinly sprinkled with large green dots. Stem short, in a rather deep cavity. Calyx closed in a corrugated basin. Flesh yellowish white, crisp, tender, juicy, and excellent. October to January.

Culp.

Origin, Jefferson county, Ohio. Introduced by Georg Culp.

Fruit medium, angular, irregularly conic. Skin waxen yellow, shaded with blush or dull crimson, thickly sprinkled with light dots. Stalk short, inserted in a broad, deep cavity, surrounded by thin russet. Calyx closed, basin uneven. Flesh

firm, crisp, juicy, with an agreeable, vinous flavour. December to March.

Cumberland Spice.

From Cumberland county, N. J.

Fruit rather above medium, conic, angular. Skin pale yellow, rarely with a blush, sprinkled with brown dots. Stem short and thick. Cavity shallow. Calyx small, partially open, in a small slightly corrugated basin. Flesh white, tender, juicy, and pleasant. Apt to shrivel. Core large and hollow. December to February.

Curtis Sweet.

Origin unknown. Received from A. Bresee, Hubbardton, Vermont. Tree vigorous, upright productive.

Fruit large, oval, inclining to ovate, ribbed. Skin pale yellow, sprinkled, marbled, and splashed with crimson, and thickly covered with crimson dots. Stem short, inserted in a deep, acute cavity. Calyx closed, basin very shallow, and nearly filled with prominences. Flesh white, fine grained, very tender, with a very pleasant, delicate flavour. August to October.

Danvers Winter Sweet. Man. Ken.

Epse's Sweet.

In Massachusetts, from a town in which this variety takes its name, it has been for a long time one of the best market apples —but we think it inferior to the Ladies' Sweeting. It is an abundant bearer, and a very rapid tree in its growth.

Fruit of medium size, roundish-oblong. Skin smooth, dull yellow, with an orange blush. Stalk slender, inclining to one side. Calyx set in a smooth, narrow basin. Flesh yellow, firm, sweet, and rich. It bakes well, and is fit for use the whole winter, and often till April.

Davis.

Origin, Plymouth, Wayne Co., Michigan, on the farm of Jehiel Davis. Tree vigorous, upright, bears annually.

Fruit small, inclining to cylindric, flattened at base and crown. Skin yellowish, shaded, and obscurely striped with crimson, russeted at the crown, and sprinkled with grey dots. Stem long, inserted in a round deep cavity. Calyx closed, set in a small uneven basin. Flesh whitish, fine-grained, compact, juicy, crisp, sprightly, sub-acid. April, May.

Derry Nonsuch.

Dinsmore.—Londonderry.

Origin unknown, from Keene, N. H., and held in estimation

there. Tree thrifty and productive, a late keeper. Fruit above medium, oblong, or conic, angular, skin yellow sprinkled, shaded, and splashed with crimson. Stem short, in a moderate cavity. Calyx large, closed, basin shallow, uneven. Flesh yellowish, juicy, tender, slightly aromatic, agreeably sub-acid. January to April.

Detroit Black.

Crimson Pippin. Grand Sachem.

A showy, large, dark, blood-red fruit, but rather coarse, and scarcely worth cultivation. Fruit very large, roundish, distinctly ribbed, and irregular in its outline. Stalk short and strong, and calyx set in a well marked basin. Skin smooth, deep, dingy red, over the whole surface. Flesh white, rather dry, and without much flavour. September.

Detroit Red.

Detroit. Black apple of some. Large black.

This fruit, commonly known in Western New-York and Michigan as the Detroit, is supposed to have been brought to the neighbourhood of Detroit by early French settlers, and thence disseminated.

Fruit of medium or rather large size, roundish, somewhat conical. Stalk three-fourths of an inch long, planted in a deep cavity. Skin pretty thick, smooth, and glossy, bright crimson at first, but becoming dark blackish purple at maturity, somewhat dotted and marbled with specks of fawn colour on the sunny side. Calyx closed, set in a shallow plaited basin. Flesh white, (sometimes stained with red to the core in exposed specimens,) crisp, juicy, of agreeable, sprightly, sub-acid flavour. October to February.

Devonshire Quarrenden. Thom. P. Mag. Fors.

Red Quarrenden.—*Lind.* Sack Apple.

An English fruit, scarcely of medium size, roundish, flattened, and slightly narrowed at the eye. Skin rich deep crimson, with lighter crimson, sprinkled with numerous green dots. Flesh nearly white, crisp, juicy, with a pleasant sub-acid flavour. Ripe during all August and September.

Dillingham.

Raised by D. C. Richmond, of Sandusky, Ohio. Tree moderately vigorous, productive, and particularly excellent for baking.

Fruit, medium, roundish, inclining to conic. Skin greenish-

yellow, with green and red dots. Stem short, cavity deep. Calyx closed in a medium basin. Flesh yellowish, fine-grained, juicy, sweet. November to February.

Disharoon.

Origin, Habersham county, Georgia, growth upright and vigorous.

Fruit medium roundish, oval or oblate. Skin greenish white, covered with grey dots. Stem short, inserted in a large cavity. Calyx partially closed, set in a rather deep, round, open basin. Flesh, white, juicy, tender, with a pleasant sub-acid flavour. November to December.

Domine.

Wells—Striped R. I. Greening.
Hogan—English Red Streak.

This apple, extensively planted in the orchards on the Hudson, so much resembles the Rambo externally, that the two are often confounded together, and the outline of the latter fruit (see Rambo,) may be taken as nearly a fac-simile of this. The Domine is, however, of a livelier colour, and the flavour and season of the two fruits are very distinct,—the Rambo being rather a high flavoured early winter or autumn apple, while the Domine is a sprightly, juicy, long keeping, winter fruit.

Fruit of medium size, flat. Skin lively greenish-yellow in the shade, with stripes and splashes of bright red in the sun, and pretty large russet specks. Stalk long and slender, planted in a wide cavity and inclining to one side. Calyx small, in a broad basin, moderately sunk. Flesh white, exceedingly tender and juicy, with a sprightly pleasant, though not high flavour. Young wood of a smooth, lively, light brown, and the trees are the most rapid growers and prodigious bearers that we know—the branches being literally weighed down by the rope-like clusters of fruit.

The Domine does not appear to be described by any foreign author. Coxe says that he received it from England, but the apple he describes and figures does not appear to be ours, and we have never met with it in any collection here. It is highly probable that this is a native fruit. It is excellent from December till April.

Downton Pippin. Thomp. Lind.

Elton Pippin,
Knight's Golden Pippin,
Downton Golden Pippin. } *of some English gardens.* *Ken.*

A rather early variety of the English Golden Pippin, raised by Mr. Knight of Downton Castle.

Fruit a little larger than the Golden Pippin, about two and a quarter inches in diameter, roundish, flat at the ends. Skin smooth, yellow. Flesh yellowish, crisp, with a brisk, rich, tart flavour. October and November.

Downing's Paragon.

Raised by A. G. Downing, near Canton, Illinois. Growth upright, not very strong. Bears regularly and well.

Fruit above medium, oblong, oval. Skin light yellow, with a sunny cheek. Stem short and small, inserted in a deep abrupt cavity. Calyx partially closed, basin deep. Flesh whitish, juicy, tender, sweet, rich, aromatic, somewhat like early Sweet Bough. September to December.

Drap d'Or. Coxe. Thomp. Ron.

Vrai Drap d'Or. *O. Duh.*
Early Summer pippin, *of some New-York gardens.*
Bay Apple } *ac. to*
Bonne de Mai } *Thomp.*

This is distinct from the Drap d'Or of Lindley, and of Noisette, and most French authors, which is quite a small apple; but it is the *Vrai Drap d' Or* of the old Duhamel, pl. xii. Fig. 4.

Fruit large, roundish, sometimes a little oblong, narrowing slightly to the eye. Skin smooth, yellow or dead gold colour, with distinct small brown dots, or specks. Stalk short, moderately sunk. Calyx set in a shallowish basin, which is rather plaited or irregular. Flesh crisp, juicy, and of a pleasant, sprightly, mild flavour, agreeable for the dessert or for cooking. August to October. The tree grows vigorously, and bears well, and the wood is smooth and dark brown.

Dutchess of Oldenburgh. Thomp. Ron.

A handsome Russian Fruit of good quality, tree vigorous and productive, valuable for market. Succeeds well at the North.

Fruit medium size, regularly formed, roundish. Skin smooth, finely washed and streaked with red on a golden or yellow ground. Calyx pretty large and nearly closed, set in a wide even hollow. There is a faint blue bloom on this fruit. The flesh is rich and juicy, with an excellent flavour. Ripens early in September.

Dyer, or Pomme Royale. Ken

Smithfield Spice.	Tompkins.
Mygatt's Bergamot.	Coe's Spice.
Beard Burden.	Bullripe.

A popular New England dessert apple, very sprightly, tender, and excellent. It is supposed to be of French origin, and to

have been brought to Rhode Island more than a hundred years ago. It was re-named Dyer by the Mass. Hort. Society, who supposed it to be a seedling of Mr. Dyer, of R. I., but the old and familiar name of *Pomme Royale* should be preferred.

Fruit of medium size, roundish, pretty regularly formed. Skin smooth, pale greenish yellow, with a faint blush and a few dark specks on one side. Stalk about half an inch long, set in a smooth, round cavity. Calyx closed, basin plaited, moderately deep. Core round, hollow. Flesh white, very tender and juicy; flavour very mild and agreeable—slightly sub-acid. September, October.

Dutch Mignonne. Thomp. Lind. P. Mag.

Reinette Dorée, (*of the Germans.*)	Paternoster Apfel.
Pomme de Laak.	Settin Pippin.
Grosser Casselar Reinette.	Copmanthorpe Crab.

This magnificent and delicious apple from Holland, proves one of the greatest acquisitions that we have received from abroad. The tree makes very strong and upright shoots, and bears fine crops.

Fruit large, often very large, roundish, very regularly formed. Skin dull orange, half covered or more with rich, dull red, dotted and mottled with large yellow russet specks. Calyx open, set in a deep, round, regular basin. Stalk nearly an inch long, slender, bent, and planted in a narrow, deep cavity. Flesh at first firm, but becoming tender, with a rich, very aromatic flavour. November to February.

Duckett.

A southern Fruit.

Fruit rather large, oblate. Skin light waxen yellow, often with a crimson cheek. Stem short, inserted in a deep cavity. Calyx small, closed basin, deep, furrowed. Flesh white, tender, juicy, with a pleasant vinous flavour. Very good at the south, where it is ripe October to November.

Early Pennock.

Shakers' Yellow.	Indian Queen.
August Apple.	New-Jersey Red Streak.
Warren Pennock.	Harmony.

A very productive and favourite variety, with many at the west.

Fruit large, conic, angular or ribbed. Skin light yellow, splashed, mottled and shaded, with light red. Stem short, cavity large. Calyx closed, in a small narrow plaited basin. Flesh whitish, a little coarse, with a pleasant sub-acid flavour. Last of August and September.

Early Chandler.

Fruit medium or small, roundish. Skin mostly shaded and striped with fine red on yellow ground. Stem short, in a regular cavity. Calyx closed, in a large basin. Flesh yellowish, tender, juicy, with a pleasant sub-acid flavour. Fine for cooking, too acid for eating. August.

Early Long Stem?

Early Spice.

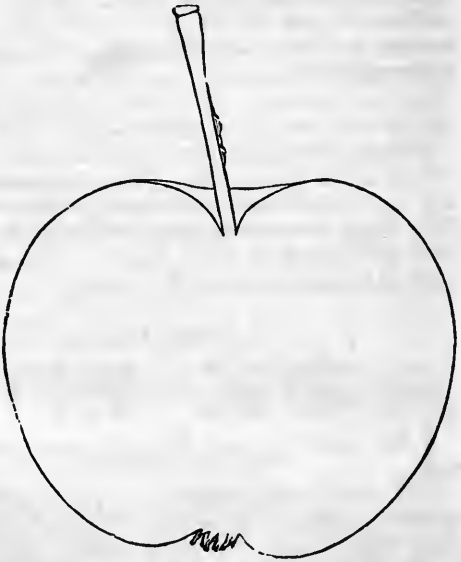
Origin unknown. Specimens received from Henry Avery, Burlington, Iowa.

Fruit small, oblong, conical, slightly ribbed. Skin greenish yellow. Stem long, slender, in a large cavity, slightly russeted. Calyx closed, basin shallow, corrugated. Flesh white, tender, juicy, slightly aromatic, subacid. August.

Early Strawberry Apple.

American Red Juneating?
Red Juneating, *erroneously, of some American gardens.*

A beautiful variety, which is said to have originated in the neighbourhood of New-York, and appears in the markets there from July till September. It is quite distinct from the Early Red Margaret, which has no fragrance, and a short stem



Early Strawberry.

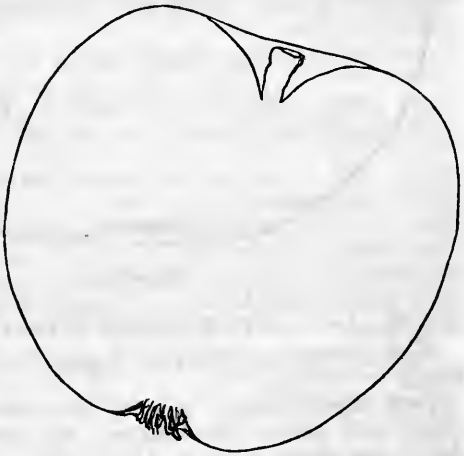
Fruit roundish, narrowing towards the eye. Skin smooth and fair, finely striped and stained with bright and dark red, on a yellowish white ground. Stalk an inch and a half long, rather slender and uneven, inserted in a deep cavity. Calyx rather small, in a shallow, narrow basin. Flesh white, slightly tinged with red next the skin, tender, subacid, and very sprightly and brisk in flavour, with an agreeable aroma.

Early Red Margaret. Thomp. Lind.

Margaret, or Striped Juneating. *Ronalds.*
Early Red Juneating. Striped Juneating.
Red Juneating. Eve Apple of *the Irish.*
Margaretha Apfel, or *the Germans.*

An excellent early apple, ripening about the middle of July, or directly after the Early Harvest. The tree while young is rather slender, with upright woolly shoots. It is a moderate bearer.

Fruit below medium size, roundish-ovate, tapering towards the eye. Skin greenish yellow, pretty well covered by stripes of dark red. Stalk short and thick. Calyx closed, and placed in a very shallow plaited basin. Flesh white, sub-acid, and when freshly gathered from the tree, of a rich agreeable flavour.



Early Red Margaret.

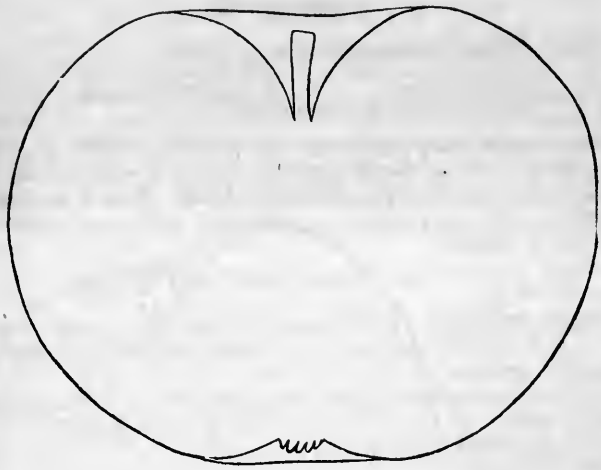
This is distinct from the Margaret Apple of Miller, the Red Juneating of some of our gardens, which resembles it, but is round, with a short slender stalk, and dull yellow skin striped with orange red on one side, the fruit fragrant and the leaves very downy.

Equinteley.

Sol. Carter.

Origin, Yancey Co., N. Carolina.—One of the best of the southern apples. Specimens sent us by W. N. White, from Mr. Van Beuren.

Fruit large, oblate, conic, angular, slightly oblique. Skin whitish yellow, mostly overspread with beautiful bright crimson, and thinly sprinkled with whitish dots. Stalk short and fleshy, inserted in a broad, deep cavity. Calyx closed, set in a deep, rather narrow, irregular basin. Flesh yellowish, very tender, almost melting, juicy, with a very mild, sub-acid flavour. November to May.



Equinteley.

Elicke's Winter Sweet.

Origin, Lebanon County, Pa. An upright grower, and a good bearer.

Fruit above medium, obliquely depressed. Skin yellow, striped and mottled with crimson. Stem short, inserted in a large cavity, slightly russeted. Calyx nearly closed, set in a deep, slightly plaited basin. Flesh yellowish, a little coarse, tender, not very juicy, but very sweet, and excellent for apple butter. December to January.

Enfield Pearmain.

A moderate grower and a fair bearer.

Fruit below medium, nearly globular. Skin deep red, sprinkled with minute dots. Stem long and slender, in a large cavity, surrounded by thin russet. Calyx partially closed, in a broad, shallow basin. Flesh tender, fine grained, juicy, with a pleasant, mild, rich flavour, resembling Seek-no-further. December to February.

Esten.

Origin, Rhode Island. Tree vigorous, productive.

Fruit large, oblong-ovate, slightly ribbed, smooth. Yellow, sometimes with a blush, dots large, green, and red. Stalk one inch long, slender. Cavity deep, basin shallow. Flesh white, fine-grained, mild, sub-acid. (J. J. T.)

Ewalt.

Origin, farm of John Ewalt.

Size full medium. Form truncated, somewhat angular. Colour greenish yellow, with a bright red cheek, and many greenish russet spots, especially about the base. Stem very short, rather stout, inserted in a narrow, not very deep, cavity. Calyx closed, set in a narrow, moderately deep, slightly plaited basin. Flesh fine texture, tender. Flavour sprightly and pleasant, with an exceedingly fragrant odour. Quality very good. April. (W. D. Brinckle.)

Excel.

Origin, Sharon, Conn. A strong grower and a good bearer.

Fruit large, oblate, angular. Skin yellowish, marbled, splashed, and shaded with red. Stalk in a large cavity. Calyx closed, in a rather deep, slightly furrowed basin. Flesh yellow, tender, juicy, rich, with a very brisk, sub-acid flavour. Core large and open. December to February.

Exquisite.

Origin, orchard of A. G. Downing, Canton, Illinois. Growth moderate, upright, and very productive.

Fruit below medium, oblate. Skin yellow, striped and marked with red. Stem short and small, surrounded by russet, in a deep, broad cavity. Calyx small, partially closed, set in a shallow basin. Flesh white, juicy, melting, with a very rich, vinous flavour, almost saccharine. A delightful apple for the table. September to November.

Eustis.

Ben Apple.

Origin, South Reading, Mass. Moderate grower, a good bearer.

Fruit rather large, roundish, slightly conic. Skin yellow, striped and shaded with fine red, and sprinkled with greenish dots. Stem short, inserted in a deep cavity, surrounded by russet. Calyx partially open, basin narrow, rather deep. Flesh yellowish, firm, crisp, mild, sub-acid. November to January.

Fairbanks.

Origin, Winthrop, Maine.

Fruit medium, oblate, conic. Light yellow, striped with red, and patched with russet. Stem long, cavity broad and shallow. Flesh yellowish, juicy, with a rich, vinous flavour. September to October. (Me. P. S. R.)

Farley's Red.

A native of Oldham, Ky. Tree a moderate grower, hardy and productive.

Fruit cylindric, inclining to oval, angular. Skin yellowish, shaded and striped with deep crimson, and specked with light dots. Stalk very short, inserted in a deep, irregular cavity, surrounded by thin russet. Calyx open, in a very shallow, uneven basin. Flesh whitish, very firm, crisp, juicy, with a pleasant, vinous flavour. January, April.

Fall Seek-no-further.

Winter Seek-no-further.

Tree thrifty and productive.

Origin unknown; grown in Connecticut, and much prized there.

Fruit very large, oblate. Skin yellow, mostly shaded with red, striped with darker red, and covered with numerous greyish dots. Stalk rather long, inserted in a broad, deep, russeted cavity. Calyx closed, in a very broad, uneven basin. Flesh whitish, tender, moderately juicy, with a pleasant sub-acid flavour. October, January.

Fallowater.

Falwalder.	Pim's Beauty of the West.
Fornwalder.	Pound.
Tulpehocken.	Mountain Pippin.

A favourite apple of Pennsylvania, of which State it is a native, introduced by Mr. Garber, of Columbia. Tree, a strong grower and very productive.

Fruit very large, globular, inclining to conic. Skin yellowish green, shaded with dull red, and sprinkled with large grey dots. Stalk very short, inserted in a deep cavity. Calyx small and closed, set in a slightly plaited basin. Flesh greenish white, juicy, crisp, rather tender, pleasant, sub-acid flavour. November, February.

Fall Harvey. Man. Ken.

A fine large Fall fruit from Essex Co., Mass., very highly esteemed in that neighbourhood. We do not think it comparable to the Fall pippin, which it a little resembles.

Fruit large, a little flattened, obscurely ribbed or irregular about the stalk, which is rather slender, an inch long, set in a wide, deep cavity. Calyx closed, small, in a rather shallow corrugated basin. Skin pale straw yellow, with a few scattered dots. Flesh white, juicy, crisp, with a rich, good flavour. October and November.

Oake's apple very much resembles the above, but said to be a seedling and ripens later. It may prove distinct.

Fall Pearmain.

Tree thrifty, moderate bearer.

Fruit fair and handsome, from Connecticut; medium roundish, conic, slightly angular. Skin yellow, striped, splashed and shaded with crimson, and sprinkled with grey and green dots. Stalk medium, in a deep, slightly russeted cavity. Calyx partially closed, basin rather deep, slightly corrugated. Flesh white, tender, juicy, sub-acid, rather rich flavour. September, October.

Fall Orange.

Holden. Hoypen.
Jones' Pippin.

Origin, Holden, Mass. A very strong, erect grower, good bearer.

Fruit fair, large, roundish, ovate, angular. Skin pale yellow, sometimes with a dull red cheek and sprinkled with brownish dots. Stalk short, inserted in a deep, narrow cavity, very slightly surrounded by russet. Calyx large, partially closed, basin rather deep, narrow. Flesh white, tender, juicy, sub-acid. Too acid for a dessert, good for cooking. October, November.

Fay's Russet.

Origin, Bennington, Vt., on the farm of Mr. Fay, moderate grower and very productive.

Fruit rather below medium size, conic. Skin light yellow, mostly covered with russet, having a crimson cheek, obscurely striped. Stalk short and small, inserted in a moderate, acute cavity. Calyx partially closed, segments long, in a shallow somewhat furrowed basin. Flesh white, tender, sprightly, pleasantly sub-acid. April, June.

Fisk's Seedling.

Origin, Keene, New Hampshire. Tree vigorous and productive, highly esteemed in its locality.

Fruit medium, oblate, oblique. Skin deep red on the sunny side, indistinctly striped with darker red and yellow, and sprinkled with yellow dots. Stalk medium length, in a round, deep, russeted cavity. Calyx large, segments reflexed, in a broad basin, of moderate depth. Flesh greenish white, tender, melting, with a rich vinous, saccharine flavour. October, November. (Robert Wilson's MS.)

Focht.

A seedling of Lebanon Co., Pa. Tree a low open head, productive.

Fruit large, oblate, slightly conic, angular. Skin pale yellow, sometimes with a blush. Stem short, cavity broad, deep, russeted. Calyx almost closed, cavity broad and shallow. Flesh white, crisp, tender, juicy, with a good, sub-acid flavour. October, December. Excellent for culinary purposes.

Foundling.

Shirley. Groton.

Origin, Groton, Mass. Tree moderately vigorous, spreading, productive.

Fruit above medium, oblate, inclining to conic, angular. Skin yellowish green, striped and shaded with deep rich red. Stalk short, slender, in a large, somewhat furrowed cavity. Calyx closed, basin small, furrowed. Flesh yellow, tender, juicy, with a pleasant, rich, vinous flavour, very good. August, September.

Ford Apple.

Origin, farm of David Ford, Canaan, Columbia Co., N. Y.

Fruit large, roundish, slightly conical, colour rich yellow. Stem long, cavity shallow, basin small, plaited. Flesh yellowish white, solid, moderately tender, with a high, rich, rather acid flavour. October, January. (Cult.)

Fort Miami.

Origin near Fort Miami, Ohio. Tree thrifty, healthy, productive, but not an early bearer.

Fruit medium to large, oblong, flattened at both ends, somewhat ribbed. Colour brownish red, generally a little russeted. Stalk medium, cavity deep, open, uneven. Calyx closed, basin abrupt, furrowed. Flesh yellowish white, crisp, breaking, with an exceedingly high, sub-acid, spicy flavour. February to May. (Elliott.)

French Pippin.

Tree hardy and vigorous, with dark, reddish brown shoots, grown in Essex Co., N. J.

Fruit rather large, roundish, oblate, sometimes oblique. Skin fine yellow, with a faint dull cheek, thinly sprinkled with large brown dots, and traces of russet. Stalk short, inserted in a medium cavity, basin large, open. Flesh yel-

lowish, tender, pleasant, rich, sub-acid, very good. October, January.

Quite distinct from Newark or French Pippin, which has slender branches. There is also another French Pippin, grown in Pa. distinct.

Franklin's Golden Pippin. Thomp. Lind. Man.

Sudlow's Fall Pippin.

This should be an American variety, named after Dr. Franklin. Fruit of medium size, oval, very regular in shape, rather broadest at the base. Eye sunk in an even hollow. Stalk short, slender, deeply planted. Skin deep yellow, freckled with numerous dark spots. Flesh pale yellow, crisp, tender, with a fine rich aromatic flavour. The tree grows freely, and forms an upright head. October.

We have not been able to obtain the fruit, and give the old description.

Gabriel.

Ladies' Blush.

Tree of rather slender growth, productive.

Fruit above medium, globular, inclining to conic. Skin whitish green, shaded and splashed with crimson, and sprinkled with grey dots. Stalk short, inserted in a broad, deep cavity. Calyx open, set in a moderate, uneven basin. Flesh yellowish, tender, juicy, with a rich, pleasant, sub-acid flavour. October and November.

Garrettson's Early.

Tree of vigorous growth, productive. Fruit medium, roundish, slightly oblate, a little angular. Skin yellowish, thickly covered with light specks. Stalk short, inserted at an inclination in a shallow cavity. Calyx closed, in a small abrupt furrowed basin. Flesh white, tender, juicy, with a pleasant sub-acid flavour. July and August.

Gewiss Good.

Gewis Guth. Indeed Good.

Fruit medium globular, sometimes oblate, often conic. Skin light yellow, slightly shaded with carmine. Stalk short, inserted in a deep, narrow cavity. Calyx partially closed, basin deep, slightly corrugated. Flesh juicy, tender, crisp, with a somewhat spicy, sub-acid flavour. December, February.

Origin, Berks Co., Pa., and is much esteemed by the farmers there.

Golden Sweet.

Orange Sweeting, or Golden Sweet. } *Kenrick.*

A celebrated Connecticut fruit sent us by Mr. Lyman, of that state. Fruit above the medium size, roundish, scarcely flattened, fair, and well formed. Skin, when fully ripe, pale yellow or straw colour. Stalk about an inch long, slender at its junction with the fruit. Calyx closed, and set in a basin of moderate depth. Flesh tender, sweet, rich, and excellent. The tree is a pretty free grower, and bears large crops. A valuable sort. Ripe in August and September.

Golden Ball. Ken.

This is a favourite apple in the state of Maine, and a vigorous, hardy variety. Fruit large, roundish, narrowing a little to the eye, about three inches deep—and a good deal ribbed at the sides and towards the crown. Skin smooth, golden yellow, with a few dots. Stalk set in a broad, shallow cavity. Eye rather narrow. Flesh crisp, tender, with a rich, aromatic flavour. December to March. A native of Connecticut. Moderate bearer.

Golden Russet, of Mass.

Tree vigorous, upright, and productive. Fruit medium, globular, conic. Skin golden russet, with a sunny cheek. Stalk small and short, inserted in a deep cavity. Calyx nearly closed, segments small, recurved, basin deep, round, and open. Flesh yellowish-white, tender, with a rich mild sub-acid flavour. January, April.

There are many Golden Russets about the country, and it is difficult to identify them. This is from Mass., and believed to be distinct from those grown in N. Y., and west, yet may not prove so when fully tested.

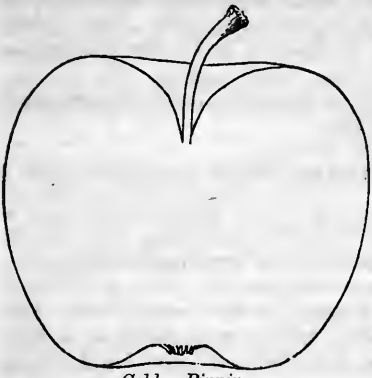
Golden Pippin. Ray. Thomp. Lind.

English Golden Pippin,
Old Golden Pippin,
Balgone Pippin,
Milton Golden Pippin,
Russet Golden Pippin,
Herefordshire Golden Pippin,
London Golden Pippin,
Warter's Golden Pippin,
Bayfordbury Golden Pippin,
Pepin d'Or. *Knoop,*
} *ac. to Thomp.*

Pomme d'Or. *Noisette of Duh.*
Koening's Pippelin.
Reinette d'Angleterre.

The Golden Pippin of the English, is the queen of all dessert

apples, in the estimation of the English connoisseurs, as it unites the qualities of small size, fine form, and colour, with high flavour and durability. It is a very old variety, being mentioned by Evelyn, in 1660, but it thrives well in many parts of England still. The Golden Pippin has never become popular in this country, either because the taste here, does not run in favour of small apples, with the high, sub-acid flavour of the Golden Pippin, and other favourite English sorts, or because our Newtown pippins, Swaars, and Spitzenburghs, etc., are still higher flavoured, and of a size more admired in this country. The Golden Pippin is not a very strong grower, and is rather suited to the garden than the orchard, with us.



Golden Pippin.

Fruit small, round, and regularly formed. Skin gold colour, dotted with gray, russety dots, with also obscure white specks imbedded under the skin. Stalk nearly an inch long, slender. Calyx small, and set in a regular, shallow basin. Flesh yellowish, crisp, rather acid, but with a rich, brisk, high flavour. A great bearer, but requires a strong, deep, sandy loam. November to March.

There are many varieties of the English Golden Pippin, differing but little in general appearance and size, and very little in flavour, from the old sort, but of rather more thrifty growth; the best of these are Hughes', and Kirke's new Cluster Golden Pippins.

There are half a dozen sorts of apples which are improperly called American Golden Pippin, but we have never yet been able to find a distinct and new variety of this name. What are so termed are, usually, the Fall, or the Yellow Newtown Pippin.

Grandfather.

Fruit large, roundish, oblate, inclining to conic, somewhat angular. Skin whitish, marbled, striped, splashed, and shaded with crimson. Stalk short, inserted in a very deep cavity, surrounded by russet. Calyx small, closed, set in a small deep, abrupt basin, surrounded by prominences. Flesh white, tender, juicy, pleasant, sub-acid flavour. October.

Green Seek no Further.

White Seek-no-further.
Flushing Seek-no-further.
Seek-no-further. *Coxe.*

Rather large, roundish, conical. Skin yellowish green, sprinkled with green and brown dots. Stem short, in a moderate cavity. Calyx closed, in a rather deep basin. Flesh white, crisp, tender, juicy, with a pleasant, mild, sub-acid flavour. October, January.

Tree while young very slow in its growth, but makes a compact, well formed head in the orchard.

Fruit apt to be knotty and unfair.

Origin in the garden of the late Wm. Prince, Flushing, L. I.

Greenskin.

An old fruit much grown in North Carolina, also west.

Tree vigorous and erect, productive.

Fruit medium, oblate, flattened at base and crown. Skin greenish yellow, oily. Stalk very short, inserted in a large cavity. Calyx small, closed, set in a broad, open basin. Flesh juicy, very tender, with a sweet, rich, vinous flavour. November, February.

Green's Choice.

Origin Chester County, Pa. Tree vigorous and productive.

Fruit medium, roundish, conical. Skin yellow, striped with red. Flesh, tender, juicy, very mild sub-acid or almost sweet. Ripe last of August and first of September.

Green Mountain Pippin.

From Georgia, and much grown there as a market fruit.

Fruit medium, oblate, inclining to oblong, flattened at base and crown. Skin greenish yellow. Stalk medium, curved, in a rather broad, deep cavity, surrounded with russet. Calyx open, in a broad, shallow basin. Flesh white, crisp, juicy, tender, with a pleasant vinous flavour. November, February.

Green Cheese.

Winter Cheese. Turner's Green.

Origin Tennessee, tree of rather slow growth, an early and abundant bearer.

Fruit medium, oblate, obliquely depressed. Skin greenish yellow, covered with brown dots. Stalk very short, in a broad, deep cavity, surrounded by russet. Calyx partially closed, in a

broad shallow uneven basin. Flesh rather fine, juicy, with a brisk sub-acid flavour. November to April.

There are several other varieties of Cheese, such as Summer, Maryland, Fall, &c., but we have not seen enough of them to give descriptions.

Grimes' Golden Pippin.

Originated on the farm of Thos. Grimes, Brooks County, Virginia.

Fruit medium, cylindric, angular. Skin golden yellow, covered with minute brown dots. Stalk rather short, inserted in a deep narrow cavity. Calyx closed or partially closed, set in a deep abrupt basin. Flesh yellow, juicy, crisp, rich, with a peculiar sub-acid flavour. January to March.

Hain.

Origin Berks County, Pa., a vigorous grower and profuse bearer.

Fruit large, globular, inclining to oblong. Skin yellow, striped, marbled and mottled with red. Stalk rather long, slender, set in a deep, abrupt cavity. Calyx nearly closed, basin open, slightly corrugated. Flesh white, juicy, tender, rich, sweet and slightly aromatic. November, March.

Harris.

Originated with Mr. Harris, Rockingham County, N. Carolina. Tree vigorous, erect, productive, popular in its native locality.

Fruit large, oblate. Skin bright straw-colour, occasionally with a pink blush. Stem very short and stout, cavity broad and shallow, basin large and deep. Flesh coarse, pleasant, sub-acid. Last of August and continues a long time, valuable for culinary purposes. (G. W. Johnson, Ms.)

Harnish.

Fruit medium, oblong, oval, slightly angular. Skin mostly shaded with dark red, and sprinkled with greyish dots. Flesh compact, tender, not juicy, almost sweet, pleasant. September to October.

From Pennsylvania, said to have originated in Lancaster County.

Hawthornden. Thomp. Lind. Ron.

White Hawthornden. *Nicoll.*

A celebrated Scotch apple, which originated at Hawthornden,

the birth-place of the poet Drummond. It resembles, somewhat, our Maiden's Blush, but is inferior to that fruit in flavour.

Fruit rather above the medium size, pretty regularly formed, roundish, rather flattened. Skin very smooth, pale, light yellow, nearly white in the shade, with a fine blush where exposed to the sun. Calyx nearly closed, set in a rather shallow basin, with a few obscure plaits. Stalk half an inch long, slender. Flesh white, juicy, of a simple, pleasant flavour. An excellent bearer, a handsome fruit, and good for cooking or drying. The ends of the bearing branches become pendulous.

Hector.

A seedling of Chester Co., Pa. Large, oblong, conical, striped and mottled with red on a yellow ground. Stem three-quarters of an inch long, slender, inserted in a deep, open cavity. Basin narrow, deep, furrowed. Flesh crisp, texture fine, flavour pleasant. Quality "very good." January, April. (Ad. Int. Rep.)

Hemphill.

From Person Co., N. Carolina. An erect, vigorous grower, and bears profusely.

Fruit nearly globular, somewhat oblong, inclining to oblate. Skin whitish yellow, very much shaded with red, and thickly sprinkled with greyish dots. Stalk medium, in a rather broad, deep cavity. Calyx closed, basin small. Flesh yellowish, compact, with a very rich, mild, sub-acid flavour. November, May.

Henry Apple.

A strong vigorous grower, and productive, from Vermont.

Fruit large, oblong, conic, angular. Skin yellow, with a slight bronzed cheek, and many small, greyish dots. Stalk short, cavity moderate. Calyx closed, basin small. Flesh yellow, tender, not very juicy. Flavour rich, pleasant. October, January.

Henrick Sweet.

Henry Sweet.
Ladies' Sweet of some.
Sweet Pearmain.

Strong, upright grower, regular and good bearer.

Fruit medium, oblate, conic. Skin whitish yellow, shaded with light red, splashed with crimson, and sprinkled with a few grey dots. Stalk slender, medium, inserted in a deep, wide cavity. Calyx small, closed, set in a rather deep, abrupt, round basin. Flesh white, tender, juicy, very sweet, not very rich. November, May.

Herman.

Origin, farm of Mr. Herman, Cumberland Co., Pa. Tree vigorous and spreading, quite prolific.

Fruit medium, oblong, conic. Colour, fine red striped on green ground. Flesh greenish, tender, juicy, sub-acid, and high flavour. November to April. (Sam. Miller Jr., Ms.)

Hess.

Origin, Lancaster Co., Pa.

Medium size, form variable, sometimes roundish, often conical. Red, in stripes of different hues. Stem short, rather stout. Cavity narrow, moderately deep, slightly russeted. Basin deep, narrow. Flesh greenish white, tender. Flavour agreeably aromatic. Quality "very good." Winter. (Ad. Int. Rep.)

Highlander.

Origin, Sudbury, Vermont. Tree a good grower, very productive. Fruit medium, oblate, approaching conic. Skin greenish, mottled and striped with red. Stalk short, rather slender, inserted in a rather deep cavity. Calyx small and closed, basin small. Flesh white, juicy, tender, with a pleasant vinous flavour. September, October.

Hightop Sweet.

Summer Sweet. Sweet June.

Origin, Plymouth, Mass. An old variety, highly prized at the West. Growth vigorous, very productive.

Fruit medium, or below, roundish, regular. Skin very smooth, light yellow, partially covered with green dots. Stem medium, inserted in a deep, narrow cavity, surrounded by thin russet. Calyx small, closed, basin shallow, slightly furrowed. Flesh yellowish, very sweet, not very juicy, but pleasant and rich. August.

Hepler.

Raised by Mr. Hepler, of Reading, Pa.

Fruit medium, oblate, inclining to conic. Colour light yellow, shaded with dull red. Stalk short and small, cavity deep, surrounded by green russet. Calyx partially closed, basin open. Flesh white, not juicy, with a pleasant sub-acid flavour. December to April.

Hilton.

Origin, Columbia County, N. Y. Tree vigorous and productive.

Fruit large, roundish. Skin yellowish green. Flesh tender, juicy, sub-acid, excellent for culinary purposes. September to October.

Hill's Favourite.

Origin, Leominster, Mass. A thrifty grower, and very productive.

Fruit about medium, roundish, slightly conic, angular. Skin yellow, mostly shaded, and striped with red, covered with thin bloom and numerous whitish dots. Stalk short, cavity medium, uneven. Calyx closed, basin small, shallow. Flesh yellow, compact, tender, juicy, with a pleasant, slightly sub-acid, aromatic flavour. Middle of September, and in use for a month.

Hog Island Sweet.

Sweet Pippin.

Origin, Hog Island, adjoining Long Island. Tree vigorous and productive. Valuable for family use and stock feeding.

Fruit of medium size, oblate. Skin yellow, striped with red, with a bright crimson cheek. Stem rather short, slender, inserted in a deep abrupt cavity. Calyx closed, set in a broad basin of moderate depth. Flesh yellow, juicy, crisp, tender, slightly aromatic, with a very sweet, rich, excellent flavour. September, October.

Hollady's Seedling.

Raised by John Hollady, Spottsylvania county, Va. A very thrifty, upright grower, a good bearer.

Fruit medium, oblate. Colour yellow, with a faint blush, and sprinkled with grey dots. Flesh yellowish, compact, tender, rich, aromatic. November to March. (H. R. Roby.)

Holland Pippin. Thomp. Lind. Miller.

Reinnette d'Hollande. *Noisette?*
Summer Pippin. } *of New Jersey.*
Pie Apple. }

This and the Fall Pippin are frequently confounded together. They are indeed of the same origin, and the leaves, wood, and strong growth of both are very closely similar. One of the strongest points of difference, however, lies in their time of ripening. This being with us a late summer, the Fall Pippin a late autumn, and the White Spanish Reinnette an early winter fruit.

The Holland Pippin, in the gardens here, begins to fall from the tree, and is fit for pies about the middle of August, and from that time to the first of November, is one of the very best kitchen

apples, making the finest tarts and pies. It is not equal to the Fall Pippin for eating.

Fruit very large, roundish, a little more square in outline than the Fall Pippin, and not so much flattened, though a good deal like it; a little narrowed next the eye. Stalk half an inch long, thick, deeply sunk. Calyx small, closed, moderately sunk in a slight plaited basin. Skin greenish yellow or pale green, becoming pale yellow when fully ripe, washed on one side with a little dull red or pale brown, with a few scattered, large, greenish dots. Deserves a place in every garden.

Hollow Crown.

Fruit medium, oblong, inclining to oval, flattened at crown. Skin yellow, striped and splashed with red, and sprinkled with a few grey dots. Stalk short, surrounded with russet, in a moderate cavity. Calyx closed, basin broad. Flesh yellowish, juicy, with a sprightly aromatic excellent flavour. October, January.

Homony.

Origin unknown. Perhaps a local name. Tree vigorous, upright, an early and constant bearer. Much esteemed in Kentucky, where it ripens first of July, or about the time of early Harvest.

Fruit large, ovate-conical. Skin yellow, striped with red, mostly a deep red in the sun. Flesh white, tender, mild, sub-acid, with a rich, Pearmain flavour. (I. S. Downer, Ms.)

Honey Greening.

Poppy Greening.

Origin uncertain. Grown at the West. Tree vigorous, spreading, very productive.

Fruit large, oblong oval, angular. Skin greenish yellow, sprinkled with green and grey dots. Stalk rather long, slender, inserted in a deep cavity. Calyx closed, set in a deep, broad basin. Flesh white, tender, juicy, brisk, sweet, and slightly aromatic. December to April.

Hooker.

Origin, Windsor, Conn. Growth upright, vigorous, productive.

Fruit medium, conic, slightly oblique. Skin greenish yellow, shaded with dull crimson, striped with red, and sprinkled with large russet dots. Stalk short, inserted in a very shallow cavity. Calyx small, partially closed, in a small, abrupt basin. Flesh greenish, tender, juicy, with a pleasant sub-acid flavour. November to January.

Horse Apple.

Summer Horse. Yellow Hoss.

Origin supposed to be North Carolina. Tree vigorous, an early and abundant bearer, valuable for drying and culinary purposes.

Fruit large, varying in form from oblate to oval, angular. Skin yellow, sometimes tinged with red, and small patches of russet. Stalk short, cavity and basin shallow. Flesh yellow, rather firm and coarse, tender, pleasant, sub-acid. Last of July and first of August.

Housum's Red.

Origin, Berks county, Pa. Large, oblong, compressed at the sides. Skin red in stripes, yellow at the base. Stem short, thick. Cavity narrow, not deep, slightly russeted, basin moderately deep, plaited. Flesh firm, texture tender, with a delightful aroma; quality, "very good," at least. October and February. (Ad. Int. Rep.)

Hoover.

Raised by Mr. Hoover, of Edisto, South Carolina.

Fruit large and beautiful, nearly globular, inclining to conic. Color rich dark crimson, peculiarly marked with round, white spots of about an eighth of an inch in size. Stem half an inch long, fleshy. Calyx open, in a smooth, greenish yellow basin. Flesh white, flavour brisk acid. November to February.

Howe's Russet.

Origin, Shrewsbury, Mass. Very much resembles Roxbury Russet, and may be seedling of it.

Fruit large, oblate, often conic, angular. Skin greenish yellow, mostly covered with russet, and generally with a bronzed cheek. Stalk short, inserted in a broad cavity. Calyx partially closed, basin abrupt, uneven. Flesh yellowish, compact; brisk, vinous flavour. January to May.

Hubbardton Pippin.

Origin uncertain, received of Robt. Wilson of Keene, New Hampshire; he says it is much cultivated in that neigbourhood, highly prized, and by many preferred to Baldwin. Tree thrifty, strong grower, and productive.

Fruit large or very large, variable in form, globular inclining to conic, angular, slightly oblique. Skin yellow, shaded and striped with red. Stalk short, inserted in a moderate cavity. Calyx closed, basin small, corrugated. Flesh tender, yellowish,

crisp, juicy, with a very pleasant sub-acid flavour. Core long and open. November to March.

Hughes.

Origin, Berks Co., Pa., from Thomas Hughes, said to be an abundant bearer, large, roundish. Skin greenish yellow, with a blush, and numerous grey dots. Stem variable in length, slender, inserted in a moderately deep open cavity. Calyx large, open, set in a wide, deep, sometimes plaited basin. Flesh fine texture, tender, juicy. Flavour very agreeable, saccharine without being sweet, with a delicate and delicious aroma. Quality "very good" if not "best." March, April. (Ad. Int. Rep.)

Hurlbut.

Hurlbut Stripe.

Origin, farm of Gen. Hurlbut, Winchester, Conn. Tree very vigorous, and great bearer. Fruit medium, oblate, slightly conic, angular. Skin yellow, shaded with red stripes, and splashed with darker red, and thinly sprinkled with light dots. Stalk short, rather slender, inserted in a broad deep cavity, surrounded by russet. Calyx closed, basin rather shallow. Flesh white, crisp, tender, juicy, with a mild sprightly sub-acid flavour. November, December.

Hunt's Russet.

Origin, Mr. Hunt's Farm, Concord, Mass. Growth rather slow, bears annually and abundantly.

Fruit small, conic. Skin russet, shaded with dull red, on a greenish yellow ground. Stalk short, slender, cavity deep and broad. Calyx closed, segments long, recurved in a round open basin. Flesh juicy, fine grained, rather rich, sprightly, sub-acid flavour. December to April.

Iola.

Specimens received from W. N. White, Athens, Ga.

Fruit large, oblate, angular, compressed horizontally. Skin yellow, mottled, marbled, striped and shaded with crimson. Stem short, in a rather large cavity. Calyx large, partially closed, in an abrupt furrowed basin. Flesh white, fine grained, tender, juicy, vinous, rich and agreeable. A very delightful apple. Core small. December to February.

Junalieska.

Raised in Cherokee Co., N. Carolina, by J. Whittaker.

Fruit large, globular, inclining to conic. Skin fine yellow, colour, speckled with dark brown russet. Stem short and fleshy,

cavity narrow, basin very small. Flesh yellow, with a sprightly sub-acid flavour. November to March. (T. Van Beuren, Ms.)

Indiana Favourite.

Supposed to have originated on the farm of Peter Morrits, Fayette Co., Indiana. Growth healthy, spreading, and a good bearer. Fruit medium or large, flattened at the ends, slightly one-sided. Skin yellowish, shaded and streaked with red, and covered with russet specks. Stem rather short and slender, cavity deep. Calyx irregular, basin abrupt. Flesh white, tender, juicy, vinous, almost sweet, and very pleasant, "very good." January to April. (A. H. Ernst.)

Jackson.

Origin, premises of James M. Jackson, Bucks Co., Pa. Size medium, roundish. Skin greenish yellow, with many dark green blotches and grey dots, a very few faint stripes, and warm mottled brown cheek. Stem variable from short to long, inserted in a deep narrow cavity. Calyx closed, set in a moderately wide and deep, sometimes slightly plaited basin. Flesh greenish, fine texture, tender, juicy. Flavour delicately aromatic. Quality very good, perhaps best. October to May. (W. D. Brinckle.)

Jefferson County.

Origin, Jefferson Co., N. Y. Tree vigorous, an early and great bearer. Fruit medium size, round, regular. Stalk set in a deep cavity. Calyx small, closed, in a deep smooth basin. Skin smooth, greenish yellow, marbled with red and russet on the sunny side, running into broken stripes toward the shaded side. Flesh crisp, juicy, tender, mild, sub-acid, rich and excellent. October to February (Hort.)

Jenkins.

Originated with John M. Jenkins, Montgomery Co., Pa. Fruit small, roundish, ovate, red interspersed with numerous large white dots on yellowish ground. Stem more than half an inch long, slender. Cavity deep, rather wide, sometimes russeted. Calyx closed; basin deep, open, furrowed. Flesh white, tender, fine texture, juicy. Flavour agreeably saccharine, exceedingly pleasant and aromatic. Quality "very good" if not "best." The Jenkins is one of those delicious little apples peculiarly fitted for the table at evening entertainments. January to March. (W. D. Brinckle.)

Jersey Sweeting.

A very popular apple in the middle States, where it is not

only highly valued for the dessert, but, owing to its saccharine quality, it is also planted largely for the fattening of swine.

Fruit medium size, roundish-ovate, tapering to the eye. The calyx is small, closed, very slightly sunk, in a small plaited basin. Stalk half an inch long, in a rather narrow cavity. Skin thin, greenish yellow, washed and streaked, and often entirely covered with stripes of pale and dull red. Flesh white, fine grained, and exceedingly juicy, tender, sweet, and sprightly. Young wood stout, and short jointed. This apple commences maturing about the last of August, and continues ripening till frost.

Jewett's Fine Red.

Nodhead.

Origin, New Hampshire, of moderate growth, and productive, requires high culture to produce fair fruit.

Fruit medium, oblate. Skin greenish white, striped and shaded with crimson. Stem short, inserted in a broad deep cavity. Calyx firmly closed, in an exceedingly small basin. Flesh tender, juicy, with a very pleasant, sprightly, almost sweet flavour. November to February.

Jewett's Best.

Origin, farm of S. W. Jewett, Weybridge, Vt., same habit as Rhode Island Greening.

Fruit large, oblate or nearly globular, irregular. Skin greenish, mostly shaded with deep red. Stem short, inserted in a large cavity. Calyx closed, set in a very small basin. Flesh yellowish, juicy, almost melting, with a very pleasant, rich, sub-acid flavour. December to February.

John's Sweet.

Origin, Lyndsboro, New Hampshire, a good grower, somewhat straggling, a prolific bearer.

Fruit medium, oblong or conic. Skin whitish yellow, sprinkled, striped, and splashed with red. Stem short, inserted in a narrow cavity, surrounded by russet. Calyx closed, set in an abrupt basin. Flesh juicy, tender, with a sweet peculiar flavour. January to May.

Johnson.

Origin, Brookfield, Conn. A strong, upright grower, and a good bearer.

Fruit above medium, roundish, conic. Skin smooth, striped with red on a yellow ground, dark red in the sun. Stem of medium length, in a large cavity. Calyx closed, in an abrupt basin.

Flesh remarkably tender, crisp and juicy, with a brisk, sweet flavour, very soon becomes mealy, after ripening. Middle of August to middle of September.

John Carter.

Origin uncertain, grown in Connecticut. Tree vigorous and productive.

Fruit large, roundish, conic, angular. Skin yellow, marbled, striped and splashed with crimson. Stem short, set in a large cavity. Calyx closed, segments long, basin deep, slightly corrugated. Flesh white, tender, juicy, with a mild, sub-acid flavour. September.

Julian.

Juling.

A Southern fruit of uncertain origin.

Fruit medium, roundish, tapering somewhat to the eye, rather one-sided. Calyx small, in a narrow basin. Stem short, in a moderate cavity. Skin thin, yellowish white, striped and marked with carmine, of a beautiful waxen appearance, sprinkled sparingly with whitish dots. Flesh white, tender, juicy, and fine flavoured, indeed the finest summer apple known North and South. Middle of July in Georgia. (White's Gard.)

Kaighn's Spitzenburgh.

Red Pearmain. Red Spitzenburg.

Fruit rather large, oblong oval, approaching conic. Skin whitish yellow, mostly shaded and striped with red, and thickly sprinkled with minute dots. Stalk of medium length, inserted in a deep open cavity. Calyx closed, segments long, set in a rather narrow abrupt basin, slightly corrugated. Flesh yellowish, coarse, crisp, juicy, with a pleasant, sub-acid flavour. November to January.

Kane.

Cane. Cain.

Origin, Kent Co., Delaware. Tree moderately vigorous, upright, a beautiful little apple of pleasant flavour.

Fruit small, oblate, slightly conic, regular. Skin whitish yellow, waxen, beautifully shaded and lightly striped with fine crimson. Flesh whitish, juicy, crisp, with a pleasant flavour. October, November.

Keswick Codlin. Thom. Lind.

A noted English cooking apple, which may be gathered for tarts as early as the month of June, and continues in use till November. It is a great bearer and a vigorous tree.

Fruit a little above the middle size, rather conical, with a few obscure ribs. Stalk short and deeply set. Calyx rather large. Skin greenish yellow, washed with a faint blush on one side. Flesh yellowish white, juicy, with a pleasant acid flavour.

Keiser.

Red Seek-no-further.

An old variety much grown in Jefferson Co., Ohio, and highly prized, growth of tree like Rambo.

Fruit medium, roundish, oblate, slightly oblique, angular. Skin pale yellow, shaded with red, indistinctly striped and thickly sprinkled with large greyish dots. Stalk short, inserted in a large cavity. Calyx small, closed, in a broad, shallow, corrugated basin. Flesh yellowish, not very juicy, but mild sub acid. November to February.

Another Red Seek-no-further, received from Samuel Miller, near Lebanon, Pa., distinct, and a universal favourite there. December to April.

Keim.

Origin, Berks Co., Pa.

Fruit small to medium, oblong oval. Skin light waxen yellow, thickly sprinkled with light russet dots. Stalk long, slender, in a very small, round, peculiar cavity. Calyx closed, basin shallow and uneven. Flesh white, tender, crisp, with a fine, brisk, delicate aromatic flavour. Very good. December to March.

Kelsey.

Origin, Berks County, Pa., on the premises of John Kelsey. Size medium, roundish, oblate, sometimes inclining to conical. Skin greenish yellow, with occasionally a faint blush and numerous grey dots. Stem short, inserted in a deep, moderately open cavity. Calyx closed, set in a very shallow, plaited basin. Flesh tender, fine texture, greenish white. Flavour mild, and exceedingly pleasant, fragrant aroma. Quality very good. March. (W. D. Brinckle.)

Kentish Fill-Basket. Thomp. Lind. Ron.

Potter's Large Seedling. *Ron.*
Lady de Grey's.

An immense English fruit, properly named, and much admired by those who like great size and beauty of appearance. The flavour is tolerable, and it is an excellent cooking apple. The tree grows strongly, and bears well.

Fruit very large—frequently four and a half inches in diameter, roundish, slightly ribbed or irregular. Skin smooth,

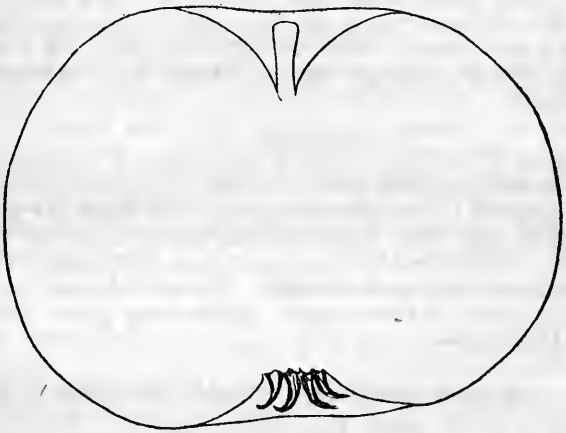
yellowish green, in the shade, but pale yellow in the sun, with a brownish red blush on the sunny side; slightly streaked or spotted with darker red. Flesh tender, juicy, with a sub-acid, sprightly flavour. October to January.

Kentucky Apple.

Of unknown origin and probably a local name, an early and abundant bearer, large and very uniform, oblong, conical, color green, marbled and mottled, with dull red in the sun, with irregular greenish splashes or specks. Cavity narrow, acuminate. Calyx large, in a narrow abrupt basin. Flesh not very fine, but juicy, very tender, with a very agreeable, sub-acid flavour. Very good. Nearly equal to Gravenstein. (T. McWhorter's, Ms.)

Kirkbridge White.

Tree of rather slow growth, an early and abundant bearer. Fruit below medium, oblong, ovate, very irregular, ribbed. Skin yellowish white. Stalk short and small, in a narrow cavity. Calyx small and closed, segments long, reflexed, basin narrow. Flesh white, tender, juicy, sub-acid, ripe soon after early harvest, and continues in use four or five weeks; popular in some sections of the West.



Klaproth.

Klaproth.

This beautiful apple, a native of Lancaster County, Pa., (on the farm of Mr. Brennaman), was brought into notice by Dr. J. K. Eshleman of Downingtown, Pa, and promises to be an excellent fruit, especially for market purposes. Bears carriage remark-

ably well, a most prolific bearer and vigorous grower; we give the Dr.'s description. Size medium, form oblate. Skin greenish yellow, streaked and stained with red, deepened on the sunny side, dotted all over with light specks and occasional russet spots, near the stalk, which is short and inserted in a smooth deep cavity. Calyx small and closed, segments reflexed, set in a wide, regular, and well formed basin. Flesh white, very crisp, juicy, tender, and pleasant sub-acid flavour, and until quite ripe acid predominates. August to October.

Krowser.

Origin, Berks County, Pa., where it is exceedingly popular. Tree, a handsome grower and an abundant bearer.

Fruit medium, roundish, conic. Colour whitish yellow, striped and splashed with carmine. Stalk rather short, inserted in a medium cavity. Calyx closed, basin small and corrugated. Flesh white, tender, mild, sub-acid flavour. December, March.

Ketchum's Favourite.

Origin, farm of Mr. Ketchum in Sudbury, Vt. Tree vigorous and productive.

Fruit medium, irregularly oval, inclining to conic. Skin light waxen yellow, slightly shaded with rosy blush, irregularly sprinkled with carmine dots. Stalk of medium length, inserted in a narrow cavity, surrounded by russet. Calyx closed, basin deep and narrow. Flesh white, with a very mild, rich, and excellent flavour. September to January.

Lady Healy's Nonsuch.

Fruit medium, roundish, oblate. Skin light waxen yellow. Stalk short and stout, cavity large. Calyx closed, basin medium, corrugated. Flesh rather firm, with a pleasant slightly aromatic flavour. September.

Lake.

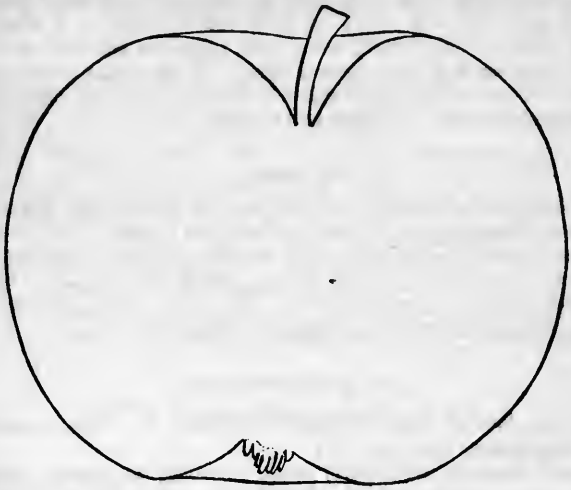
Origin, D. C. Richmond, Sandusky, O. Tree of strong upright growth, productive.

Fruit scarcely of medium size, round, ovate, conical. Skin yellow, striped and shaded with deep red. Flesh tender, juicy, rich, pleasant sub-acid. Ripe September and October. (Richmond, Ms.)

Landon.

Origin uncertain, found on the farm of Buel Landon, Grand Isle, Vermont, and by him introduced to notice. Tree vigorous, with low spreading branches, and bears moderately every year.

Fruit medium, roundish, inclining to conic. Skin yellow, mottled and shaded with red or deep crimson, and covered with numerous grayish dots. Stalk short, cavity large, surrounded



Landon.

by russet. Calyx open, basin corrugated and shallow. Flesh yellowish, firm, crisp, juicy, with a rich, mild, sub-acid flavour, aromatic. Very good. February to May.

Lane's Red Streak.

Origin, orchard of Mr. Lane, Edgar County, Illinois. Tree of moderate growth.

Fruit large, round, conical, regular. Colour yellow, with very fine short stripes, and specks of bright red, beautiful. Flesh white, fine, tender, pleasant, sub-acid, of fair quality. October. (McWhorter.)

Lane's Sweet.

Origin, Hingham, Mass. Tree vigorous and productive.

Fruit medium, oblate, slightly conic. Skin fine, yellow, with a sunny cheek. Stem short, cavity large, russeted. Calyx closed, basin small, open. Flesh yellowish, not very tender juicy, sweet, aromatic. November to March.

Landrum.

A southern variety, sent us by W. N. White, Athens, Georgia.

Fruit medium, conic, regular. Skin deep crimson, thickly

sprinkled with large white dots. Stalk of medium length, rather slender, set in a deep, acute cavity, surrounded by russet. Calyx very small, closed, basin small, slightly corrugated. Flesh yellowish, rather coarse, crisp, tender, juicy, with a rich, saccharine, vinous flavour. October—November.

Large Striped Winter Pearmain.

Striped Sweet Pippin.

Origin unknown, supposed to be Kentucky, grown at the south and west. A vigorous grower, and very productive.

Fruit large, roundish, inclining to oblate, angular and irregular. Skin yellow, striped, splashed and shaded with crimson. Stalk short and small, inserted in a large cavity surrounded by russet. Calyx small, closed, set in a broad uneven basin. Flesh yellow, juicy, crisp, tender, with a very mild, rich, pleasant flavour, scarcely sub-acid. October to January.

Late Strawberry.

Autumn Strawberry.

Tree vigorous, upright. A regular bearer.

Fruit medium, roundish, slightly conical, sometimes faintly ribbed; nearly whole surface with small broken streaks of light and dark red. Stalk slender, about an inch long. Basin ribbed. Flesh yellowish-white, slightly fibrous, very tender, juicy, with a fine very agreeable sub-acid flavour. (Thomas.)

Lacker.

Laquier.

Origin, Lancaster Co., Pa.

Fruit medium, oblate, angular. Skin pale red, striped with crimson. Stalk short, slender, inserted in a narrow russeted cavity. Calyx closed, basin wide, deep, corrugated. Flesh white, tender, crisp, juicy, pleasant. November to March.

Ledge Sweet.

Origin, Portsmouth, N. H. Tree productive; regular bearer.

Fruit large, roundish, flattened, yellowish-green tinged with blush, reddish russet specks. Stem short, stout. Cavity open, deep. Calyx particularly closed. Basin shallow. Flesh yellowish-white; fine, juicy, crisp, sweet. January to June. (Hov. Mag.)

Leland Spice.

Leland Pippin. New York Spice.

Origin, Sherborn, Mass. Tree vigorous, productive, size large,

roundish. Skin yellow, nearly covered with bright red. Stem short, in a narrow cavity. Calyx small, basin shallow. Flesh yellowish, rather tender, juicy, with a very rich aromatic sub-acid flavour, excellent for dessert or kitchen. September, October. (Cole.)

Lewis.

Origin, Putnam Co, Indiana. A good grower, and productive.

Fruit medium, oblate, conic. Skin yellowish, striped with crimson, and partially covered with thin cinnamon russet, and sprinkled with gray and brown dots. Stalk short, inserted in a deep cavity. Calyx closed or nearly so, in a moderate basin. Flesh yellow, compact, with a rich sub-acid flavour; not very juicy. November, February.

Leicester Sweet.

Potter Sweet.

Rather large, flattish, greenish yellow and dull red, tender, rich, excellent, fine for dessert or baking. Winter. Tree, vigorous, not very productive. Origin, Leicester, Mass. (Cole.)

Limber Twig.

James River.

An apple much cultivated South and West. Size medium or above, roundish oblate inclining to conic. Skin greenish yellow, shaded and striped with dull crimson, and sprinkled with light dots. Stalk of medium length, inserted in a broad, deep cavity, surrounded by thin, green russet. Calyx closed, set in a small, uneven basin. Flesh whitish, not very tender, juicy, with a brisk, sub-acid flavour. January, April.

Locy.

Globular, sometimes inclining to oblate, and sometimes oblong or conic. Skin greenish, shaded and striped with dull red. Stalk short, inserted in a small, acute cavity. Calyx closed, in an open, furrowed basin. Flesh greenish, crisp, tender, juicy, with a very pleasant, brisk, vinous flavour. November—February.

Long Stem of Massachusetts.

Origin, Massachusetts. Distinct from the Long Stem of Pennsylvania. Fruit medium, roundish. Skin pale yellow, with a dull brown cheek, covered with dots. Stalk very long and slender, cavity large. Calyx large, partially open, basin

broad. Flesh white, tender, juicy, with a fine, rich, mild, sub-acid, aromatic flavour. September to October.

London Sweet.

Heicke's Winter Sweet.

Tree upright, vigorous, a good bearer every year.

Fruit medium or large, oblate. Skin pale yellow, with very slight indications of russet, a little green russet around the stalk, and sparsely covered with brown specks. Stalk exceedingly short, in a large cavity. Calyx closed, set in an abrupt, open, slightly uneven basin. Flesh whitish, juicy, tender, with a very fine, delicate, sweet flavour, slightly aromatic. November to February.

Long Island Seek-no-further.

Westchester Seek-no-further. Ferris.

Origin unknown. An old variety. Tree vigorous and productive. Fruit large, oblate, conical. Skin yellow, striped and splashed with red. Flesh tender, juicy, with a sprightly sub-acid flavour. Very good. October to February.

Long John.

Red Pearmain. Long Pearmain.

Grown in Ohio. A large, oblong, oval, nearly cylindric, showy fruit, that has some reputation as a market apple about Cincinnati. Skin whitish, shaded with red and thickly sprinkled with minute dots. Stalk long and slender, in an acute cavity. Calyx small, nearly closed, in a round, open basin. Flesh yellowish, crisp, tender, sprightly sub-acid. November to January.

Loudon Pippin.

White's Loudon Pippin.

Origin, farm of Mr. White, Loudon county, Va., and much cultivated in that section.

Fruit large, oblate, approaching conic, angular. Skin light yellow, sprinkled with a few greyish dots. Stalk short, inserted in a large cavity, surrounded by russet. Calyx large, open, basin smooth and even, rather deep. Flesh yellowish, compact, tender, juicy, rich, sub-acid. December to February.

Loring Sweet.

Fruit medium, oblate. Skin greenish yellow, shaded with red and sprinkled with brown specks. Stalk very short, in a very large cavity. Calyx closed, basin shallow. Flesh tender, juicy, sweet, and rich. November to June.

Lowell.

Orange. Greasy Pippin.
Tallow Apple. Queen Anne.

Origin unknown. Tree vigorous, spreading, productive.

Fruit large, roundish, oval, or conic. Skin bright waxen yellow. Stalk of medium length, cavity deep, uneven, basin deep, abrupt, and furrowed. Flesh whitish, with a brisk, rich, rather acid flavour. September, October.

Lyman's Pumpkin Sweet. Ken.

Pound Sweet.

A very large sweet apple, which we received from Mr. S. Lyman, of Manchester, Conn. It is, perhaps, inferiour to the Jersey Sweet or the Summer Sweet Paradise for the table, but is a very valuable apple for baking, and deserves a place on this account in every orchard. The original tree of this sort is growing in Mr. Lyman's orchard.

Fruit very large, roundish, more or less furrowed or ribbed, especially near the stalk. Skin smooth, pale green, with obscure whitish streaks near the stalk, and numerous white dots near the eye, sometimes becoming a little yellow next the sun. Stalk short, deeply sunk in a narrow cavity. Calyx rather small, set in an abruptly sunk, rather irregular basin. Flesh white, very sweet, rich, and tender, but not very juicy. September to December.

There is another Pumpkin Sweet known in this State, which is oblong or pearmain-shaped, striped with yellow and red, and ripens in August and September; a second rate apple.

Lyman's Large Summer.

Large Yellow Summer. *Ken.*

A large and handsome American fruit, introduced to notice by Mr. S. Lyman, of Manchester, Conn. The bearing trees are easily recognized by their long and drooping branches, which are almost wholly without fruit spurs, but bear in clusters at their extremities. They bear poorly until the tree attains considerable size, when it yields excellent crops. Fruit quite large, roundish, flattened at the ends. Skin smooth, pale yellow. Flesh yellow, tender, sub-acid, rich, and high flavoured, and excellent either for the table or for cooking. Last of August.

Lyscom. Man. Ken.

Osgood's Favourite. Matthew Stripe.

Origin, Massachusetts. Fruit large, roundish. Skin greenish yellow, with a few broken stripes or splashes of red. Stalk short,

planted in a deep, round, even cavity. Calyx large, in a broad, plaited basin. Flesh fine grained, and exceedingly mild and agreeable in flavour. In use from September to November.

Macomber.

Origin, Guilford, Maine.

Fruit full medium, oblate, angular. Skin yellowish, shaded and striped with red. Stalk short, cavity large. Calyx closed, basin large and regular. Flesh white, fine grained, tender, flavour sub-acid. December, January.

Magnolia.

Origin, Bolton, Mass. Growth moderate, productive.

Fruit medium, oblate, conic. Skin yellow, beautifully striped and mottled with crimson. Stalk short, in a broad, uneven cavity. Calyx closed, basin small. Flesh white, tender, juicy, with a brisk, aromatic flavour. October.

Maiden's Favourite.

Maiden's Apple.

Origin, farm of J. G. Sickles, Stuyvesant, N. Y., from whom specimens were received. Its delicacy and beauty will make it desirable for the amateur. Tree of rather slow growth, upright slender branches, an annual and good bearer.

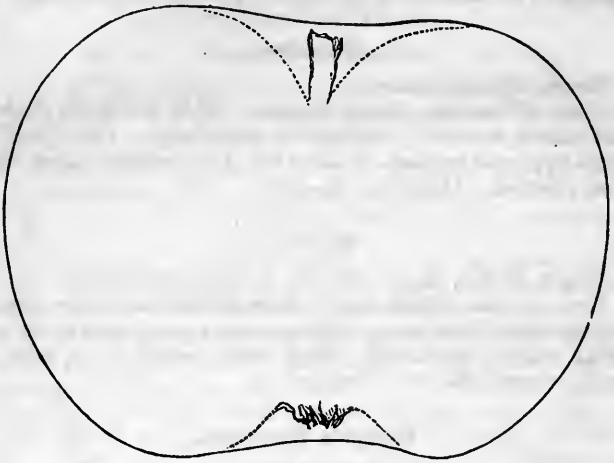
Fruit medium, or below, oblong, sometimes slightly conic, generally cylindric, but often very obscurely angular. Skin whitish, or pale waxen yellow, shaded, and sometimes slightly mottled with crimson, and sparsely sprinkled with minute dots. Stalk short and small, surrounded by thin russet, in a deep, uniform cavity. Calyx firmly closed, with persistent recurved segments, in a basin slightly corrugated, deep, abrupt, round, and open. Flesh whitish, tender, crisp, with a pleasant, very delicate, vinous flavour. December to February.

Maiden's Blush. Coxe. Thomp.

A remarkably beautiful apple, a native of New-Jersey, and first described by Coxe. It begins to ripen about the 20th of August, and continues until the last of October. It has all the beauty of colour of the pretty little Lady Apple, and is much cultivated and admired both for the table and for cooking. It is also very highly esteemed for drying.

Fruit medium sized, flat, and quite smooth and fair. Skin thin, clear, lemon yellow, with a coloured cheek, sometimes delicately tinted like a blush, and in others with a brilliant red. Stalk short, planted in a rather wide, deep hollow. Basin

moderately depressed. Calyx closed. Flesh white, tender, sprightly, with a pleasant, sub-acid flavour. The fruit is very



Maiden's Blush.

light. This variety forms a handsome, rapid growing tree, with a fine spreading head, and bears large crops.

Major.

Originated with Major Samuel McMahon, Northumberland Co., Pennsylvania. Size large, roundish, red, sometimes blended with yellow on the shaded side. Stem variable in length. Cavity rather wide, moderately deep. Basin uneven, shallow. Flesh yellowish, crisp. Flavour pleasant, agreeably saccharine. Very good. (Ad. Int. Rept.)

Male Carle. Thomp. Lind.

Pomme Finale. Charles Apple.
Mela di Carlo. Mela Carla.
Pomme de Charles.

The Male Carle is the most celebrated of all apples in Italy and the south of Europe, whence it comes. Here or in New-England, it does not always attain perfection, but south of New-York it becomes beautiful and fine, as it needs a warm and dry soil. Has proved good south.

Fruit of medium size, very regularly shaped, and a little narrower towards the eye. Skin smooth, with a delicate, waxen appearance, pale lemon yellow in the shade, with a brilliant crimson cheek next the sun, the two colours often joining in

strong contrast. Flesh white, not very juicy, but tender, and with a delicate, slightly rose-perfumed flavour. September to January.

Mansfield Russet.

Brought into notice by Dr. Joseph Mansfield of Groton, Massachusetts. Tree vigorous and very productive. Fruit small, oblong, inclining to conic. Skin cinnamon russet. Stem long, inserted in a deep, furrowed cavity. Calyx partially closed, set in an open basin. Flesh not very juicy, rich, aromatic, saccharine, vinous. Keeps till April or May.

Manomet.

Horse Block. Manomet Sweet.

Origin, Plymouth, Massachusetts. Tree vigorous and productive. Fruit medium, roundish. Skin fine yellow with a richly shaded cheek. Stalk rather slender, inserted in a shallow cavity slightly surrounded by russet. Calyx closed, basin shallow, corrugated. Flesh tender, juicy, sweet and rich. August, September.

Marks.

Origin, Berks Co., Pennsylvania, on the lands of Mr. Klinger. Tree vigorous, upright, productive. Fruit medium size, roundish, tapering slightly to the crown, somewhat angular. Skin yellowish white with a few russet dots, and nearly covered with a faint orange blush. Stem half an inch long, rather stout, cavity narrow, deep, acuminate. Calyx small, closed, basin narrow, rather deep, slightly russeted. Flesh whitish, tender, fine texture, delicately perfumed. Quality "very good" if not "best." January to March. (Ad. Int. Rep.)

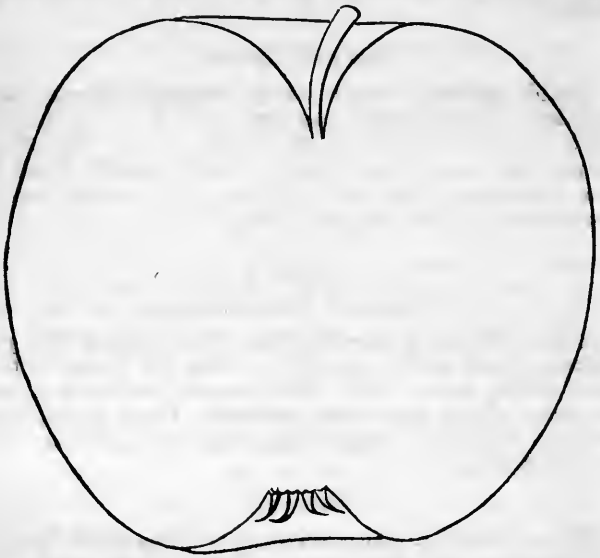
Maria Bush.

Origin, Lancaster Co., Pennsylvania. A healthy grower and good bearer. Fruit large, roundish, oblate. Skin yellow shaded, striped and splashed with red, and thinly sprinkled with russet dots. Stem slender, cavity large, basin abrupt and open. Flesh white, very tender, juicy, subacid. October, November.

Marston's Red Winter.

We received this beautiful apple from Nathan Norton, of Greenland, N. H., who says the original tree is over 100 years old and still standing in that town. Tree hardy, of moderate growth. Great bearer and keeps as well as Baldwin, and by many preferred to that variety, and is a popular fruit in that neighbourhood. Fruit above medium size, oblong-oval, inclin-

ing to ovate. Stem ¾ of an inch long, rather slender, in a narrow, deep, compressed, slightly russeted cavity—sometimes



Marston's Red Winter.

with a lip. Calyx partially closed, segments long, in a deep corrugated basin. Colour whitish yellow, shaded and striped with bright red and crimson, thickly sprinkled with minute dots. Flesh whitish yellow, very juicy, tender, sprightly subacid flavour. December to March.

Maverack's Sweet.

Raised by Dr. Maverack, Pendleton District, S. Carolina. Fruit large, roundish oblate, angular. Skin yellow, mostly shaded with crimson, and sprinkled with grey or greenish dots. Stalk short, inserted in a large cavity surrounded by russet. Calyx open, set in a deep, irregular basin. Flesh rich, pleasant, vinous, almost saccharine.

McAfee's Nonsuch.

Originated at McAfee's old Fort in Kentucky. Good grower, very productive. Fruit large, globular, inclining to oblate. Skin yellowish green, shaded and striped with crimson and covered with a thin bloom. Stem short, inserted in a large cavity. Calyx closed, set in a small basin. Flesh whitish, solid,

crisp, tender, juicy, with a very agreeable, sub-acid flavour. December, February.

McHenry.

Origin, Elizabethtown, Hamilton, Co., Ohio, farm of Major McHenry. Growth upright and free, moderately productive. Colour and quality similar to American Summer Pearmain. September to December. (Jackson.)

Meach.

From J. M. Ketchum, Brandon, Vermont.

Fruit large, roundish, slightly conic. Skin greenish yellow, striped and mottled with light red, and sprinkled with brown dots. Stalk long, rather slender, set in a pretty large cavity. Calyx closed in a corrugated basin. Flesh yellowish, rather fine, juicy, rich, mild, sub-acid, aromatic. October, November.

Meigs.

Fruit large, regular, oblong, narrowing to the eye, sometimes slightly ribbed. Skin yellow, but mostly concealed with a marbling of red and sprinkled with prominent yellow dots. Calyx small and closed, set in a narrow basin. Stem very short, thick, in a narrow deep cavity. Flesh yellowish white, tender, juicy, with a rich slightly sub-acid flavour. Autumn. (White's Gard.)

Meister.

From Berks Co., Pa. Size below medium, roundish, conical. Skin greenish yellow, striped with red, with numerous white spots, and russet dots. Stem nearly half an inch long, inserted in a wide moderately deep cavity. Calyx small, closed, set in a narrow, shallow basin. Flesh tender. Flavour sprightly and pleasant. Quality "very good." October. (Int. Rep.)

Melt in the Mouth.

Origin, Chester Co., Pa. Fruit medium or rather below, oblate, slightly conic. Skin deep red on a green ground, with a few small white dots. Stalk long, very slender, curved, in a small cavity. Calyx closed, in a rather abrupt basin. Flesh white, tender, juicy, with a mild, rather rich, pleasant sub-acid flavour, somewhat resembling summer Pearmain. September to November.

Mexico.

Origin, Canterbury, Conn. Tree of moderate growth, productive, hardy even in Maine. Fruit medium, roundish. Skin

bright crimson, striped with very dark red, a little yellow in the shade with a few large light dots. Stalk large and long, cavity broad, shallow, russeted. Calyx rather large in a narrow basin. Flesh whitish, stained with red, tender, rather juicy, with a fine high flavour, handsome and excellent. September. (Colc.)

Michael Henry Pippin. Coxe. Thomp.

Rariton Sweet?

A New Jersey fruit, a native of Monmouth county, first described by Coxe, and highly esteemed in many parts of the Middle States. Fruit of medium size, roundish, oblong or ovate, narrowing to the eye, smooth, and, when first picked, of a dull green, resembling slightly the Newtown Pippin. Skin, when ripe, of a lively yellowish green. Stalk short and rather thick. Calyx set in a narrow basin. Flesh yellow, very tender, juicy, with a peculiar sweet flavour. The tree forms a very upright head, with pretty strong shoots. November to March.

Middle.

Mittle.

Origin, Herkimer, N. Y. A moderate grower, not very productive. Fruit medium or below oval, inclining to conic. Skin greenish yellow. Stem long, slender, in an acute cavity. Calyx closed, in a small corrugated basin. Flesh white, tender, juicy, with a brisk, rich, very mild, sub-acid flavour, slightly aromatic. December, February.

Mifflin King.

Origin, farm of Mr. Koffman, Mifflin Co., Pa. Fruit small, colour of Rambo, perhaps a trifle more red. Fruit oblong. Flesh remarkably tender, juicy, and pleasant, first rate. October to December. (Trans. A. P. S.)

Miller.

Origin, Berks Co., Pa. Moderately vigorous, very productive. Fruit large, globular, inclining to oblong. Skin yellowish green shaded with red, and a bright cheek. Stem very short and thick, in a deep narrow cavity. Calyx nearly closed; basin small. Flesh white, juicy, crisp, tender. Flavour mild, sub-acid, very pleasant, core large. November.

Miller Apple.

Supposed to be a seedling and brought to notice by James O. Miller, Montgomery, Orange Co., N. Y. Tree vigorous and productive.

Fruit rather large, oval or conic. Skin yellow, striped with red. Stalk short, inserted in a deep large cavity. Calyx open, in abroad uneven basin. Flesh yellow, tender, juicy, with a rather mild, rich, pleasant flavour. September, October.

Minister. Man. Ken.

A New England variety, introduced to notice by the late R. Manning. It originated on the farm of Mr. Saunders, Rowley, Mass.; but was first exhibited to Mr. M. by a minister—the Rev. Dr. Spring, of Newburyport, whence its name. Mr. Manning recommended it, but it has not become popular.

Fruit large, oblong, tapering, to the eye, around which are a few furrows—and resembling the Yellow Belle-Fleur in outline. Skin striped and splashed near the stalk, with bright red on a greenish yellow ground. Stalk an inch long, slender, curved to one side, and pretty deeply inserted. Calyx small, closed, inserted in a very narrow, plaited or furrowed basin. Flesh yellowish white, very tender, with a somewhat acid, but very agreeable flavour. October to February.

Molasses.

Supposed to be a native of North Carolina. Tree upright, vigorous, and hardy.

Fruit medium, oblate, angular. Skin thick, rough, greenish yellow, shaded with dull pale crimson, thickly covered with large crimson or lilac dots, and dull lilac bloom. Stalk long and slender, inserted in a large cavity. Calyx closed, basin very shallow. Flesh yellow and exceedingly sweet. January to April.

Monk's Favourite.

From Randolph Co., Indiana. Tree very thrifty, an annual bearer.

Fruit large, roundish, angular, slightly flattened, yellow mottled, striped and splashed with dark red, grey russet dots. Stem short, cavity open, regular. Calyx small, basin broad, furrows obscure. Flesh yellowish white, tender, sub-acid, very good. December to June. (Elliott.)

Moore's Greening.

Raised by Mr. Moore, of Kensington, Conn., very productive.

Fruit large, globular, inclining to oblong or conic. Skin greenish yellow, sometimes with a slight blush. Stem small, inserted in a moderate cavity. Calyx closed, basin very shallow. Flesh white, juicy, tender, with a brisk, vinous flavour. December, March.

Moses Wood.

Origin, Winthrop, Maine.

Fruit medium, roundish. Skin yellow, striped with red, cavity and basin shallow. Flesh white, tender, juicy, flavour pleasant, sub-acid. September, October. (Me. P. S. Rept.)

Mouse Apple.

Moose Apple.

Origin, Ulster Co., N. Y. Tree vigorous and productive.

Fruit, in weight, light; in size, large, roundish-oblong, or slightly conical. Skin pale greenish yellow, with a brownish blush on one side, and a few scattered, russety grey dots. Stalk three-fourths of an inch long, rather slender, not deeply inserted. Calyx closed, and set in a narrow basin, slightly plaited at the bottom. Flesh very white and fine grained, and moderately juicy, with a sprightly, delicate, and faintly perfumed flavour.

Munson Sweet.

Orange Sweet. Ray Apple.
Meachem Sweet.

Origin uncertain, probably Massachusetts. Tree vigorous, spreading, an annual and abundant bearer.

Fruit medium, oblate. Skin pale yellow, sometimes with a blush, stem short, cavity large. Calyx closed, basin small. Flesh yellowish, tender, juicy, sweet. September to February.

Morrison's Red.

Origin, supposed to be a native of Medfield, Mass., on the farm of Mr. Fisher, vigorous and productive.

Fruit medium, conic, angular. Skin light yellow, shaded and obscurely striped with deep red. Stalk very short, stout, cavity small. Calyx closed, in a very small basin. Flesh tender, crisp, with a very mild, pleasant, peculiar flavour. November to March.

Nantehalee.

Maiden's Bosom.

Origin, Alabama, introduced by Dr. W. O. Baldwin, of Montgomery.

In size large, in shape quite conical, and deeply ribbed, in colour a beautiful pale waxen yellow. Stem three-fourths of an inch long, in a narrow, deep cavity. Calyx rather large, basin deep, very much ribbed. Flesh white, juicy, and pleasant. Middle of July to first of August. (J. Van Beuren, MS.)

Ne Plus Ultra.

Specimens received from Wm. N. White, of Athens, Ga.,* a beautiful fruit.

Fruit very large, oblate, angular. Skin yellowish, mostly shaded with deep crimson, and thickly sprinkled with large, lightish dots. Stalk very short, inserted in a very large cavity, surrounded by russet. Calyx open, in a broad, deep, corrugated basin, which has a downy lining. Flesh white, very tender, fine grained, for a large apple, with a very refreshing, vinous flavour; an excellent fruit. October, November.

This has a strong resemblance to Iola.

Nequassa.

Origin, Franklin, Macon Co., North Carolina.

Fruit large, oblate, colour yellow striped with red. Stem of moderate length, inserted in a large, open cavity, basin smooth and open. Flesh white and very sweet. November to January. (J. Van Beuren's MS.)

Neversink.

Origin, Berks Co., Pa.

Fruit large, roundish, exterior of an exceedingly beautiful waxen orange-yellow colour, with a few russet dots, and a delicately striped and richly mottled carmine cheek. Stem very short and rather stout, cavity narrow, acuminate, shallow. Calyx large, basin deep, rather wide furrowed. Flesh yellowish, somewhat tough, owing probably to the fruit being much shrivelled, flavour approaching that of the Pine-apple quality, "very good." December to April. (Ad. Int. Rep.)

Nickajack.

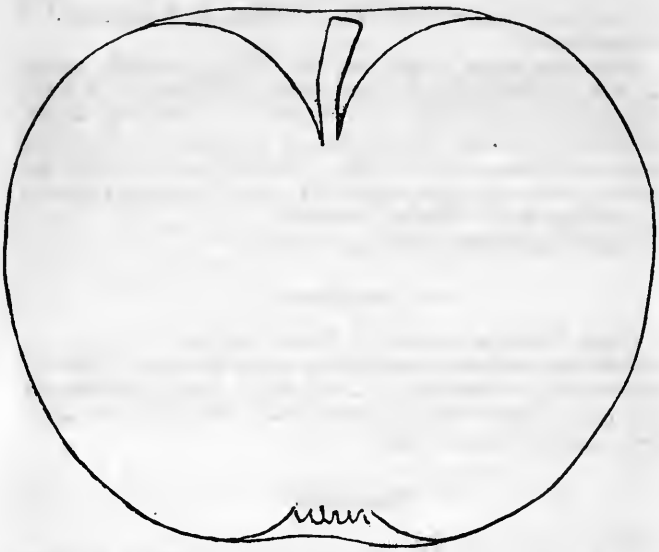
Wonder (incorrectly.) Summerour.

Origin, Macon Co., North Carolina, introduced by Silas McDowell, of Franklin. Tree of a rambling habit, very vigorous, a constant and prolific bearer.

Fruit large, roundish, somewhat flattened at base and crown. Skin yellowish, shaded, striped and splashed with crimson, and sprinkled with lightish dots. Stalk medium, inserted in a round, rather deep cavity. Calyx large, open, set in a rather broad

* Some of the new Southern winter apples are of surpassing quality, caused, doubtless, by the more complete elaboration of their juice during their warm and lengthened season.

furrowed basin. Flesh yellow, tender, crisp, juicy, with a fine, rich, sub-acid flavour. November to April.



Nickajack.

Newark King. Coxe. Thomp. Hinckman.

A New-Jersey fruit, of medium size, conical or Pearmain-shaped, and of handsome appearance. Skin smooth, red, with a few yellow streaks and dots, on a greenish yellow ground. Calyx set in a narrow basin. Flesh tender, with a rather rich, pleasant flavour. The tree is spreading, and bears well. November to February.

Newark Pippin. Coxe.

French Pippin, Yellow Pippin, } *of some American gardens.*

A handsome and excellent early winter variety, easily known by the crooked, irregular growth of the tree, and the drooping habit of the branches. Not profitable.

Fruit rather large, roundish-oblong, regularly formed. Skin greenish yellow, becoming a fine yellow when fully ripe, with clusters of small black dots, and rarely a very faint blush. Calyx in a regular and rather deep basin. Stalk moderately

long, and deeply inserted. Flesh yellow, tender, very rich, juicy, and high flavoured. November to February.

Northern Sweet.

Northern Golden Sweet. Golden Sweet.

Origin unknown, supposed to be Vermont. Tree healthy and productive, but needs high culture for the perfect development of the whole crop.

Fruit above medium, roundish, conic, angular. Skin oily yellow, sometimes with a blush. Stem rather long, in a moderate cavity. Calyx small, and closed in a narrow, abrupt, corrugated basin. Flesh white, tender, juicy, sweet, rich, and excellent. September, October.

Oconee Greening.

Origin, banks of the Oconee river, a little below Athens, Ga. Fruit very large, roundish, flattened. Skin yellow, a little brownish in the sun, russet about the stem, with a few scattered russet dots. Calyx open, in a shallow, slightly-furrowed basin. Stalk very short, in a rather regular, deep cavity. Flesh yellowish, fine-grained, crisp, abounding in a delightful aromatic, lively, sub-acid juice, quality, "best."—(Ad. Int. Rept., Ga. H. Sc.)

Ohio Red Streak.

Originated with James Mansfield, Jefferson Co., Ohio. Growth vigorous, upright. Fruit medium, oblate. Skin yellow, shaded, splashed, and striped with red. Stalk short, cavity large, russeted. Calyx large, closed, basin shallow, uneven. Flesh rather compact, juicy, rich, sub-acid. January to April.

Old English Codlin. Thomp.

English Codlin. *Coxe. Lind. Ray.*
Trenton Early ?

A large and fair cooking apple, in use from July to November. Fruit generally above medium size, oblong or conical, and a little irregular. Skin clear lemon yellow, with a faint blush next the sun. Stalk stout and short. Flesh white, tender, and of a rather pleasant, sub-acid flavour. Much esteemed for cooking, ripens gradually upon the tree. The trees are very vigorous and fruitful.

Old House.

From the premises of John Cauffman, Bucks Co., Pa. Size medium, oblate, inclining to ob.-conic. Skin yellow, with a blush. Stem short, in a moderately wide, not very deep cavity.

Calyx medium, closed, set in a wide, deep basin. Flesh tender, fine texture, juicy, flavour agreeable, aromatic ; very good, if not best. December. (W. D. Brinckle.)

Osceola.

Origin, Putnam Co., Indiana. Tree vigorous. Fruit medium, or above, roundish, obliquely flattened, angular. Skin yellowish, mostly shaded with red, much sprinkled with small raised dots, and covered with a thin bloom. Stalk short and small, in a large, russeted cavity. Calyx open, or partially closed, in a deep, regular basin. Flesh yellowish, solid, crisp, juicy, mild, sub-acid, "very good." June to March. This somewhat resembles the Newtown Spitzenburgh, or N. Y. Vandevere, and perhaps equals that variety.

Orange Apple.

Of New Jersey origin. A vigorous grower, and moderately productive.

Fruit above medium, roundish, oblate. Skin orange yellow, with a few grey dots, and sometimes patches of russet. Stalk short, in a large cavity. Calyx closed. Basin moderate. Flesh yellow, juicy, sub-acid, pleasant. September, October.

Orndorf.

From Putnam Co., Ohio.

Fruit medium, roundish, slightly angular. Skin lemon yellow, rich red blush in the sun, with a few stripes and blotches of red. Stem slender, cavity and basin deep. Calyx open. Flesh yellowish, juicy, crisp, tender, sub-acid, nearly best. October, November. (Elliott.)

Orne's Early.

A foreign variety.

Fruit rather large, somewhat angular. Skin yellow, slightly russeted. Flesh white, tender, juicy, with a pleasant vinous flavour. September, October.

Paradise, Winter Sweet.

The Winter Sweet Paradise, is a very productive and excellent orchard fruit, always fair, and of fine appearance. We received it some years ago, along with the Summer Sweet Paradise, from Mr. Garber, of Columbia, Pa., and consider it a native fruit.

Fruit rather large, regularly formed, roundish. Skin fair and smooth, dull green when picked, with a brownish blush, becom-

ing a little paler at maturity. Stalk short, set in a round cavity. Calyx small, basin shallow and narrow. Flesh white, fine grained, juicy, sweet, sprightly, and very good. November to March.

Peach-Pond Sweet.

This is a most excellent autumn variety, from a small village of this name, in Dutchess county, N. Y., which we received from Mr. J. R. Comstock, an extensive orchardist, near Poughkeepsie. It appears well worthy of a more general dissemination.

Fruit of medium size, rather flat, and a little one-sided or angular in its form. Skin striped light red. Stalk long and slender. Flesh tender or very mellow, moderately juicy, with a very rich, sweet, and agreeable flavour. September to November.

People's Choice.

Melt in the Mouth *of some.*

A Pennsylvania fruit.

Fruit medium, oblate, inclining to conic or ovate. Skin bright red, sometimes obscurely striped, thickly sprinkled with large whitish dots of peculiar appearance. Stem short and fleshy, inserted in a large cavity. Calyx large, segments stout, in a rather large round basin. Flesh yellowish, firm, juicy, with a brisk, rich, sub-acid flavour. December to March.

Phillips' Sweet.

Originated on the farm of George Phillips, Coshocton Co., Ohio. Tree thrifty, upright, very productive.

Fruit rather large, conic, obscurely five angled. Skin light yellow, shaded and sprinkled with red, striped with crimson, and thickly sprinkled with large dots. Stalk medium, rather slender, inserted in a large cavity. Calyx closed, segments long, basin round, abrupt and open. Flesh yellow near the skin; juicy, with a rich, brisk, sweet flavour. November to March.

Phillippi.

Grown by William Fisher, Berks Co., Pa.

Fruit large, oblate, conical. Skin greenish-yellow, with numerous blotches and grey dots, and a blush on the exposed side. Stem short and slender, inserted in a wide moderately deep cavity. Calyx small, closed, set in a narrow superficial basin. Flesh tender, fine texture, juicy, fragrant. Flavour delicate and fine quality, "very good" or "best." January. (W. D. Brinckle.)

Pickman.

Origin, Mass.

Fruit medium, roundish, oblate. Skin yellow, with scattered shades of russet, and small russet specks. Stem short, cavity acuminate. Calyx large, half closed. Flesh yellowish-white, crisp, sharp acid, valuable for cooking. January, April. (Hov. Mag.)

Pink Sweeting.

Originated with William Keller, Cumberland Co., Pa.

Tree vigorous, spreading, producing enormous crops. Fruit small, greenish, nearly covered with bright red, perfect in form. Rich pleasant sweet flavour, and a general favourite where known, but think it too small for general use. September, October. (Samuel Miller Jr.—MS.)

Pittsburgh Pippin.

Flat Pippin. Swiss Pippin.
Father Apple. William Tell.
Switzer Apple.

Origin supposed to be Pittsburgh. An irregular grower, somewhat drooping in habit, and generally a good bearer.

Fruit large, oblate, slightly angular. Skin pale yellow, rarely with a blush, sparsely sprinkled with brown dots. Stalk short and small, in a large cavity, sometimes a little russeted. Calyx nearly closed, segments long, basin broad and corrugated. Flesh whitish, juicy, tender, with a fine mild, sub-acid flavour. November to April. A handsome Pennsylvania fruit, where it is much prized. Specimens received from Samuel Miller, near Lebanon, Pa.

Polly Bright.

Origin supposed to be Virginia.

Fruit elongated, conic. Skin light yellow shaded with carmine, obscurely striped. Stalk of medium length, in an acute cavity, russeted. Calyx in a small, furrowed basin. Flesh tender, juicy, with a pleasant sub-acid flavour. September, October.

Pomme Grise.

Pomme de cuir. Grise. *Thomp.*
Gray Apple. Leather apple of Turic.

A small gray apple, from Canada, probably of Swiss or French origin, and undoubtedly one of the finest dessert apples for a northern climate. It is not a strong grower, but is a good bearer, and has an excellent flavour.

Fruit below medium size, oblate. Skin greenish gray or cinnamon russet, with a little red towards the sun. Calyx small, set in a round basin. Flesh tender, rich, and high flavoured. December to February.

Porter Spitzenburgh.

Origin uncertain. A free grower and very productive ; now chiefly known in Connecticut.

Fruit large, globular, slightly inclining to conic, angular. Skin red, shaded with deep crimson. Stem very short, inserted in a large cavity surrounded by thin russet. Calyx small, closed, set in an open basin. Flesh white, much stained, very compact, crisp, juicy, with a pleasant, brisk, sub-acid flavour. November to March.

Pownal Spitzenburgh.

Fruit above medium, oblate, sometimes inclining to conic. Skin yellow, marbled, and striped with red. Stalk very short, in a deep, narrow cavity surrounded by russet. Calyx small, nearly closed, basin rather abrupt. Flesh yellowish, not very tender, with a pleasant, rather rich, sub-acid flavour. December to March.

Press Ewing.

Origin Kentucky. From J. S. Downer of Elkton.

Tree hardy, vigorous and productive. Fruit medium, roundish, flattened at base and crown, angular, slightly oblique. Skin yellow, shaded and striped with crimson, and thickly covered with dots, having a dark centre. Stalk medium, inserted in a very deep narrow cavity. Calyx closed, set in an uneven abrupt peculiar basin. Flesh yellowish, firm, juicy, crisp, tender, with a very agreeable sub-acid flavour, aromatic. February till April.

Priest's Sweet.

Blue Sweet. Molasses Sweet.

Origin, Leominster, Massachusetts. Tree vigorous and very productive. Fruit medium, globular inclining to conic. Skin yellow, chiefly covered with dull red stripes and numerous red dots. Stalk short, set in a rather deep cavity. Calyx closed, basin small. Flesh white, fine, tender and pleasant, not very juicy—a late keeper. January to May.

Quince.

Origin uncertain; first described by Coxe. Growth moderate; productive. Fruit medium to large, roundish oblate.

Skin yellow, sometimes with a blush. Flesh tender, juicy, with a mild, sub-acid, aromatic flavour. November.

Ragan.

Originated with Reuben Ragan, Putnam Co., Indiana. Tree hardy and fruitful. Fruit medium to large, ovate, conic, approaching to oblong, angular. Colour marbled and striped with red on a green ground. Stalk medium length, inserted in a very deep, narrow cavity. Calyx small, closed, set in a deep, abrupt basin. Flesh yellowish white, juicy, pleasant, of a rather rich, spicy, sub-acid flavour. October to November.

Rambour Franc. Duh. Thomp.

Rambour d'Ete, or Summer Rambour. *Coxe.*
Frank Rambour. *Lindley.*
Rambour d'Ete. *Poiteau.*

A French fruit, a little above médium size, flat, generally evenly formed, but occasionally a little irregular. Skin pale, greenish yellow, slightly stained and streaked with red on the sunny side. Flesh rather soft, of a sprightly sub-acid flavour, a little bitter before maturity. Ripens early in September.

Rebecca.

Origin, Wilmington, Delaware, and introduced by Joseph P. Jefferis. Fruit large, roundish, oblate. Skin whitish yellow, sometimes with a crimson cheek. Stalk very short, inserted in a deep, narrow cavity. Calyx large, closed, basin broad and deep. Flesh fine, almost sweet, tender, juicy, somewhat spicy and refreshing. August, September.

Red Winter Pearmain.

Red Lady Finger. Buncombe?

Tree of moderate upright growth; a regular bearer. Fruit medium size, conic, sometimes nearly oblong. Skin yellowish white, mostly shaded with maroon and thickly sprinkled with large light dots. Stem very short, in an acute compressed cavity slightly russeted. Calyx closed, set in a small round open basin. Flesh whitish, tender, juicy, almost melting, with a very mild, sub-acid, or nearly sweet, slightly aromatic flavour. January to March

Red Republican.

Origin, Lycoming Co., Pennsylvania. Tree vigorous, spreading. Fruit large, roundish, oblate. Skin yellowish, striped and shaded with red, and sprinkled with large, whitish dots. Stem short, in a large cavity. Calyx closed, basin broad,

deep, and furrowed. Flesh coarse, tender, juicy, sub-acid. September to December.

Red Rance.

Fruit medium or below, oblong, angular, slightly conic. Colour, fine yellow shaded with red and thickly covered with whitish dots. Stalk short, inserted in a small cavity. Calyx closed, set in a broad, shallow basin. Flesh firm, juicy, rich, with a mild Spitzenburgh flavour. December, February.

Red Sweet.

Origin on the farm of D. C. Richmond, Sandusky, Ohio. Tree upright, vigorous and productive. Fruit medium, roundish, oval. Skin yellowish, striped and shaded with light red, and sprinkled with greenish dots. Stem short and small, inserted in an acute cavity surrounded by russet. Calyx closed, set in a deep, abrupt basin. Flesh whitish, very tender, juicy, sweet and excellent. November to February.

Red Cathead.

Tree vigorous and productive, extensively grown in the eastern and southwestern counties of Virginia. Fruit large, roundish, conic, angular. Skin yellow, partially shaded with dull red and sometimes deeper red in the shade, and thickly sprinkled with whitish dots. Stem short, inserted in a deep cavity. Calyx partially open, set in a large basin. Flesh yellowish, tender, juicy, with a very brisk, pleasant flavour. October, November.

Reinette, Golden. Thomp. Ron. Lind.

Aurore.
Kirk's Golden Reinette.
Yellow German Reinette.
Reinette d'Aix.
English Pippin.
Court-pendu Doré.
Wyker Pippin.
Elizabet.
Wygers.
Megginch Favourite.
Dundee.

of various European collections, ac. to Thomp.

The Golden Reinette is a very popular dessert fruit in England and on the continent, combining beauty and high flavour.

Fruit below medium size, very regularly formed, roundish, a little flattened. Skin smooth, golden yellow, washed and striped with fine soft red on the sunny side, mingled with scattered, russet dots. Flesh yellow, crisp, with a rich, sugary, or scarcely acid juice. October to January.

This is different and superior to the *Reinette Doreé*, or *Jaune Hâtive* of he French, which is more yellow, and somewhat resembles it.

Republican Pippin.

Origin, Lycoming Co., Pa. First discovered by George Webb, who gave it the name. Tree of strong, but crooked growth, only moderately productive. Fruit large, irregularly oblate. Skin dull yellow, mostly shaded with red, somewhat striped and marbled, and thinly sprinkled with large grey dots. Stalk long, slender, inserted in a deep cavity, surrounded with thin russet. Calyx small, closed; basin rather narrow and abrupt. Flesh whitish, tender, juicy, with a pleasant, mild, sub-acid flavour. It is said to be unsurpassed for cooking and drying. September, October.

Ribston Pippin. Thomp. Lind. Ron.

Glory of York.
Travers'.
Formosa Pippin.
Rockhill's Russet.

The Ribston Pippin, a Yorkshire apple, stands as high in Great Britain as the Bank of England, and to say that an apple has a Ribston flavour is, there, the highest praise that can be bestowed. But it is scarcely so much esteemed here, and must be content to give place, with us, to the Newtown Pippin, the Swaar, the Spitzenburgh, or the Baldwin. In Maine, and parts of Canada, it is very fine and productive.

Fruit of medium size, roundish. Skin greenish yellow, mixed with a little russet near the stalk, and clouded with dull red on the sunny side. Stalk short, slender, planted in a rather wide cavity. Calyx small, closed, and set in an angular basin. Flesh deep yellow, firm, crisp, with a sharp, rich, aromatic flavour. The tree forms a spreading top. November to April.

Richardson.

Origin, farm of Ebenezer Richardson, Mass. Fruit large, roundish, conic, mostly covered with red, bright in the sun, with numerous large, light specks. Stem rather stout, in a large cavity. Calyx large, open, in a deep narrow basin. Flesh greenish white, remarkably tender, juicy, with a fine, rich, almost saccharine flavour. Last of August, and September. (Cole.)

Ridge Pippin.

Fruit rather large, roundish, conical, very much ribbed. Skin yellow, very slightly shaded, sprinkled with russet and crimson

dots. Stalk rather short, inserted generally in a large cavity. Calyx closed, set in an abrupt uneven basin. Flesh yellowish, juicy, crisp, with a mild, almost saccharine, slightly aromatic flavour. March, April.

Riest.

From Simon S. Riest, Lancaster, Pa. Size large, roundish, ribbed at apex. Skin fair yellow. Stem of medium length, in a narrow, moderately deep cavity, with some stellate russet rays. Calyx small, closed, set in a narrow, contracted, ribbed basin. Flesh fine, flavour pleasant, very good. August. (W. D. Brinckle.)

River.

Origin, Mass. Tree of slow growth, but productive. Fruit medium to large, oblong, oval, slightly conic, ribbed. Skin yellow, striped and shaded with dark red, with a slight bloom. Stalk medium, deeply planted. Calyx small, closed, set in a basin of moderate depth. Flesh coarse, juicy, tender, pleasant, sub-acid. August, September.

Roadstown Pippin.

Introduced to notice by James McLean of Roadstown, New Jersey, and originated in that town. A strong, erect grower, and makes a large tree; a good bearer, and a profitable market fruit, large and uniformly fair, excellent for cooking and drying Size large, oblate, oblique. Stem very short, stout, in a broad, deep cavity. Calyx small, and closed, in a deep basin. Skin greenish yellow, sparsely sprinkled with green dots. Flesh white, tender, sprightly, sub-acid. Middle of April to the middle of September.

Robey's Seedling.

Raised by H. R. Robey, Fredericksburgh, Va. Tree very vigorous and productive.

Fruit large, round, tapering to the eye, colour lively red, faintly striped, on a scarcely perceptible yellow ground thickly covered with creamy spots. Flesh yellow, with a very juicy, rich, high flavour. November, December. (H. R. Robey)

Roberson's White.

Origin said to be Culpepper Co., Va., where it is popular. Tree upright, of rapid growth, and bears regular crops.

Fruit medium, oblong, flattened at both ends, surface uneven, colour green, with many dark dots. Flesh yellowish, fine grained, crisp, juicy, aromatic, sub-acid. October to December. (H. R. Robey.)

Rockport Sweet.

Origin, Massachusetts. Tree a strong grower and productive.

Fruit medium, oblate, obliquely depressed. Skin greenish, becoming waxen yellow, with a dull red cheek. Stem short and thick, inserted in a cavity somewhat ribbed, surrounded by russet. Calyx large, nearly closed, set in a broad, open basin. Flesh whitish, juicy, with a brisk, sweet, aromatic flavour. January to April.

Rock Apple.

Origin, Peterborough, New Hampshire, recommended by Robert Wilson, of Keene, as an excellent fruit. Tree vigorous, with long, slender branches, very productive.

Fruit large, roundish, slightly flattened. Skin striped and splashed with dark and bright red on a yellowish ground. Flesh white, tender, juicy, flavour sub-acid, and very good. September, October.

Rock Sweet.

Origin, farm of Elihu Pearson, Newbury, Mass. Tree hardy, vigorous, and a constant bearer.

Fruit medium or below, roundish, oblate, slightly conic. Skin reddish, shaded, striped and splashed with darker red, and sprinkled with large whitish dots. Stalk short, set in a broad, deep, russeted cavity. Calyx closed, basin shallow, corrugated. Flesh white, tender, juicy, sweet and pleasant. September.

Rollin.

Origin, Franklin Co., North Carolina. Tree of moderate growth, bears abundantly.

Fruit of medial size, oblate. Skin dull red, stalk very long, cavity wide and deep, basin shallow. Flesh compact, fine grained, sub-acid, rich and delicious. October to January. (G. W. Johnson, MS.)

Rolla of Illinois may be the same.

Rum Apple.

Origin, Pawlet, Vt., on the farm of Brownley Rum. Tree upright, vigorous, an early and profuse bearer.

Fruit medium, oblate. Skin yellow, slightly shaded with crimson. Stalk short, cavity moderate. Calyx partially closed, basin broad and shallow. Flesh whitish, juicy, tender, sprightly, sub-acid. November to March.

Russet, English.

The English Russet is a valuable, long keeping variety, extensively cultivated, and well known by this name on the Hudson, but which we have not been able to identify with any English sort. It is not fit for use until February, and may be kept till July, which, together with its great productiveness and good flavour, renders it a very valuable market fruit. It is acknowledged one of the most profitable orchard apples.

Fruit of medium size, ovate, or sometimes conical, and very regularly formed. Skin pale greenish yellow, about two-thirds covered with russet, which is thickest near the stalk. Calyx small, closed, and set in an even, round basin, of moderate depth. Stalk rather small, projecting even with the base, and pretty deeply inserted, in a narrow, smooth cavity. Flesh yellowish-white, firm, crisp, with a pleasant, mild, slightly sub-acid flavour.

The trees grow very straight, and form upright heads, and the wood is smooth and of a lively brown.

Russet Pearmain.

An old variety, good bearer.

Fruit fair, medium size, roundish, conic. Skin green russet, with faint red stripes and a sunny cheek. Flesh juicy, tender, with a fine, rich, sub-acid, or almost saccharine flavour. December to March.

Sailly Autumn.

Origin, Plattsburgh, N. Y., on the farm of J. H. Sanborn. Tree upright, vigorous and productive.

Fruit medium, oblate, conic. Skin greenish yellow, the exposed side frequently deep red. Stalk short, in a medium cavity. Calyx small, closed, basin small, narrow. Flesh very tender, rich, high flavour, with a peculiar aroma. September. (J. W. Bailey, MS.)

Scarlet Pearmain. Thomp. Lind.

Bell's Scarlet Pearmain. *Ronalds.*
Oxford Peach *of some English gardens.*

A showy dessert apple, of English origin.

Fruit medium sized, pearmain or conical shaped. Skin light crimson, or yellow, in the shade, rich crimson on the sunny side. Stalk nearly an inch long, deeply set. Flesh white, stained with a tinge of pink, crisp, juicy, and of good flavour. In eating from the last of August to the tenth of October. A plentiful bearer.

Seever.

Seever's Red Streak.

From Choshocton Co., Ohio. Fruit medium, globular, lemon-yellow, striped with bright clear red. Stem short, slender. Calyx with long segments; basin deep, open. Flesh yellowish, juicy, sub-acid. October, November. (Elliott.)

September.

Pride of September.

Origin, Canton Co., Pa., from W. G. Waring. Tree hardy and vigorous, a good and regular bearer. Fruit large, globular, somewhat depressed, very slightly conic, angular. Skin yellow, slightly shaded, and thinly sprinkled with brown dots. Stalk short, inserted in a deep, abrupt cavity, surrounded by thin russet. Calyx partially closed, set in an open basin. Flesh yellowish, tender, juicy, with a very agreeable sub-acid flavour. October.

Sheppard's Sweet.

Origin, Windham Co., Conn. Tree thrifty, upright, and a great bearer. Fruit medium, angular, oblong, approaching conic. Skin yellow, striped with red. Stalk long, slender, inserted in an acute cavity. Calyx firmly closed, set in a small basin. Flesh white, tender, sweet, and pleasant. October, November.

Shockley.

Waddell Hall.

Origin, Jackson Co., Georgia. Tree vigorous, very productive, valuable for its late keeping.

Fruit medium or below, conic, truncate. Skin waxen, whitish yellow, chiefly overspread with red, and thickly sprinkled with light gray dots. Stem long, slender, inserted in a deep acute cavity. Calyx partially closed, set in a shallow corrugated basin. Flesh crisp, juicy, rich, saccharine, slightly vinous, and pleasant. April, May.

Sine-qua-non.

A native of Long Island, named by the late Wm. Prince. Fruit roundish-ovate, about medium size. Skin smooth, pale greenish yellow. Stalk slender. Flesh white, very tender, juicy, and of a delicate and very sprightly flavour. The young trees are rather slow and crooked in growth. August.

Slingerland Pippin.

Raised by Mr. Slingerland of Albany Co., New York. Introduced by Prof. James Hall. Fruit medium to large, oblate, angular, inclining to conic or distinctly conic. Skin yellow, shaded with red and sprinkled with minute dots. Stalk short and stout, inserted in a broad deep cavity, surrounded with very thin russet. Calyx small, partially closed, set in a fine angled basin of variable size. Flesh white, tender, juicy, with a very brisk rather rich, sub-acid flavour. December, February.

Smalley.

Spice.

From Kensington, Conn., where it was much esteemed. Medium size, oblate, conic. Skin yellow, with a slight blush. Stalk short and large, cavity russeted. Calyx closed; basin uneven, shallow. Flesh tender, juicy, brisk, with a pleasant aromatic flavour. September, October.

Smith's Cider.

Origin, Bucks Co., Pa. Extensively grown in Pennsylvania and western states. Tree vigorous and very productive. Fruit medium, oblong oval, obliquely flattened. Colour greenish white, shaded, and striped with red, sparsely covered with grey dots. Stalk slender, of medium length, inserted in a deep, rather narrow cavity. Calyx closed, set in a broad rather shallow basin. Flesh whitish, tender, juicy, crisp, with pleasant, mild, sub-acid flavour. December, March,

Sops of Wine.

Worden's Pie Apple.
Washington.
Bennington.

An old European variety. Tree vigorous and productive. Fruit medium, roundish ovate, fair. Skin yellow and red, splashed and shaded with deep red, and sprinkled with white and grey dots, and a thin bloom. Stem of medium length, slender, inserted in a narrow cavity. Calyx closed; basin rather shallow, uneven. Flesh white, often stained, not very juicy, with a mild, pleasant, sub-acid flavour. August, September.

Southern Greening.

Fruit oblate, much depressed. Skin green. Stalk very short, inserted in a large cavity, surrounded by russet. Calyx partially closed, segments recurved in a rather large, deep cavity.

Flesh yellowish, juicy, with a very rich, vinous, pleasant aromatic flavour. November, March.

Spitzenburgh, Flushing.

This variety has been confounded by Coxe, and more recently by Thompson, with the Esopus Spitzenburgh, but is really quite distinct. The tree makes strong, brown shoots, different from the slender yellowish ones of that sort.

The fruit is roundish-conical, stalk set in a narrow cavity, projecting beyond the fruit. Skin nearly covered with red, on a greenish yellow ground, dotted with large fawn spots, and coated with a slight bloom. Calyx small, in an even basin. Flesh white, juicy, crisp, nearly sweet, and of pleasant flavour, but without the brisk richness, or yellow colour of the Esopus Spitzenburgh. October to February.

Sutton Beauty.

Beauty.

Origin, Sutton, Mass. Tree upright, thrifty, and very productive. Fruit medium or above, roundish, somewhat angular, conic. Skin waxen yellow, shaded, mottled and obscurely striped with fine crimson, and thinly sprinkled with whitish dots. Stem rather short, inserted in a medium cavity, slightly surrounded by greenish russet. Calyx partially closed, set in a moderate, uneven basin. Flesh whitish, crisp, tender, juicy, with a sprightly, sub-acid flavour. November, February.

Sweeting, Hartford.

Spencer Sweeting.
Keney's Sweet.

Origin, farm of Mr. Spencer, near Hartford, and introduced by Dr. E. W. Bull. Tree moderately vigorous, hardy and productive.

Fruit rather large, roundish, slightly flattened. Skin smooth and fair, almost covered and striped with fine red over a yellowish green ground,—and sprinkled with small grey dots. Stalk nearly three quarters of an inch long, slender, inserted in a rather shallow, round cavity. Calyx broad, closed, with few segments, set in a slightly uneven basin which is but little sunk. Flesh very juicy, tender, with a rich, agreeable flavour. December to May or June.

Sweeting, Ramsdell's.

Ramsdell's Red Pumpkin Sweet. *Ken.* Ramsdell's Sweet.
Red Pumpkin Sweet. English Sweet.

Ramsdell's Sweeting we have lately received from Connec-

ticut, where it is greatly esteemed for the very large crops it bears, as well as for its remarkably rich saccharine flavour. We believe it is a native of Connecticut; and it derives its name from the Rev. H. S. Ramsdell, of Thompson, in that state, who has introduced it to public attention. The tree is very vigorous, grows remarkably straight and upright, comes early into bearing, and yields every year enormously.

Fruit rather above medium size, oblong, regularly shaped, and tapering slightly towards the eye. Skin rich, dark red, dotted with fawn-coloured specks, and covered with a blue bloom. Stalk quite short, deeply sunk in a rather narrow cavity. Calyx set in a pretty deep even basin. Flesh yellowish, very tender and mellow, unusually sweet and rich. In weight the apple is light. October to February. We have not been able to distinguish this from English Sweet.

Sweeting, Tolman's.

The Tolman's Sweeting is scarcely second-rate as a table fruit, but it is one of the most popular orchard sorts, from its great productiveness, its value as food for swine and cattle, as well as for baking. Form nearly globular. Skin, when fully ripe, whitish yellow, with a soft blush on one side. Stalk rather long and slender, inclining to one side, and inserted in a rather wide, shallow, but regular cavity. Calyx set in a small basin, slightly depressed. Flesh quite white, rather firm, fine grained, with a rich, sweet flavour. November to April. A native of Rhode Island. Much valued at the West.

Sweeting, Wells'.

Wells' Sweeting is one of the most sprightly and agreeable for the dessert, of all the early winter sweet apples. The only old tree in our knowledge, grows in the orchard of Mr. John Wells, near Newburgh, N. Y. We have not been able to trace it farther than this neighbourhood, though it may not have originated here. It makes stout, stiff, upright shoots, and bears well.

Fruit of medium size, roundish, broadest in the middle, and lessening each way. Skin smooth, pale, dull green, (like a Rhode Island Greening in colour, but paler,) with a dull red or brownish cheek. Stalk rather slender and short. Calyx short, set in quite a shallow basin. Flesh very white, and very tender, abounding with a rich, agreeable, sprightly juice. November to January.

Sweet Rambo.

Origin, Berks Co., Pa., habit of the tree like Rambo. Speci-

mens received from Daniel B. Lorah, near Reading, Pa.; a good and regular bearer.

Fruit medium, oblate, nearly globular. Skin yellow, mostly shaded with red, and thickly covered with large grey dots, a little elevated above the surface. Stalk short and slender, inserted in a deep cavity, surrounded by russet. Calyx closed, set in a deep open basin. Flesh yellowish, juicy, almost melting, with a rich, sugary, slightly aromatic flavour, core small and close. October to December.

Sweet Nonsuch of the West may prove the same.

Sweet Fall Pippin.

Grown in Westchester Co., N. Y. Tree vigorous, productive.

Fruit large, oblate. Skin greenish yellow, slightly sprinkled with brown dots. Stalk short, in a large cavity. Calyx closed, in a very shallow basin. Flesh juicy, sweet, and rich. October, November.

Sweet Winesap.

From Pennsylvania. Tree of moderate, upright growth, productive.

Fruit medium, oblate, slightly approaching conic. Colour red, splashed with deep crimson. Stalk long and slender, inserted in a deep cavity, surrounded with russet. Calyx large, open, set in a rather deep, open basin. Flesh tender, juicy, almost melting, with a very sweet, rich, peculiar flavour. November, December.

Sweet Romanite.

Origin unknown; received specimens from Henry Avery, Burlington, Iowa.

Fruit medium, somewhat globular, obliquely depressed. Skin greenish, becoming yellow at maturity, largely shaded with dull red, and thickly sprinkled with greenish or grey dots. Stalk short and slender, inserted in a shallow cavity, surrounded by thin green russet. Calyx large, open, set in a broad uneven basin. Flesh yellow, compact, juicy, tender, with a rich saccharine flavour. November to March.

There is also another Sweet Romanite, grown at the West, but, not having seen it, cannot say what is the distinction.

Sweet Vandervere.

Sweet Redstreak. Sweet Harvey.

Origin unknown. Tree of crooked growth, a profuse bearer, specimens from Arthur Bryant, Princeton, Illinois.

Fruit medium size, oblong, slightly conic, obscurely angular, sometimes nearly cylindric. Skin greenish yellow, shaded and striped with dull red. Stalk short, rather slender, inserted in a large, irregular cavity. Calyx partially closed, set in a broad, open basin. Flesh tender, juicy, almost melting, with an exceedingly saccharine, aromatic flavour. November, March.

Straudt.

Grown on the premises of Mr. Straudt, Berks Co., Pa. Size large, roundish, inclining to conical. Skin deep crimson, with stripes of paler red, and numerous light dots. Stem short, in a wide, deep, russeted cavity. Calyx small, closed, set in a narrow, shallow, furrowed basin. Flesh fine grained, tender, white. Flavour sub-acid and pleasant. Very good. November. (W. D. Brinckle.)

Stehly.

Origin, Berks Co., on the farm of Francis Stehly. Tree vigorous.

Fruit large, oblate, conic, angular. Skin yellow, striped and shaded with red, and covered with large brown dots. Stem very short, inserted in a deep cavity. Calyx partially closed, set in a small, uneven basin. Flesh whitish, juicy, tender, pleasant, mild, sub-acid. January to April.

Stillman's Early.

Origin, Clinton, Oneida Co., N. Y. Tree of moderate upright growth, productive.

Fruit small, roundish, conic. Skin yellow, sometimes a slight blush, and a few brown dots. Stalk long, stout, cavity shallow. Calyx closed, basin very shallow, plaited. Flesh yellow, tender, pleasant, sub-acid. Last of July, and first of August.

St. Lawrence.

Origin uncertain. Tree vigorous, upright, productive.

Fruit large, oblate, tapering towards the eye. Skin yellowish, striped and splashed with carmine. Stem of medium length, inserted in a large cavity. Calyx firmly closed; basin small and deep. Flesh white, lightly stained, crisp, juicy, tender, and vinous. September, October.

Strode's Birmingham.

Strode's.

Origin, Penn. A vigorous, upright grower, productive.

Fruit rather below medium, oblong, oval, or conic. Skin oily, yellow, sprinkled with a few grey dots. Stalk slender, set in a

deep narrow cavity ; basin broad, shallow, corrugated. Flesh yellow, moderately juicy, with a sharp flavour. September.

Sturmen Pippin.

An English fruit. Below medium, oblate, approaching conic. Skin yellow, with a bronzed or crimson cheek. Stalk of medium length, inserted in a large cavity. Calyx closed, segments long ; basin shallow and uneven. Flesh compact, with a high sub-acid flavour. January, May.

Sugar Loaf Pippin. Thomp. Lind. P. Mag.

Hutching's Seedling.

A foreign sort. Tree of good growth and productive.

Fruit of medium size, oblong or conical, smooth, clear pale yellow, becoming nearly white on one side when fully ripe. Flesh white, firm, very slightly acid, and moderately juicy. Ripens the latter part of July, and is very showy on the tree.

Sugar Sweet.

From Massachusetts ; large, conic, with many prominent angles. Skin yellow, mostly shaded with red, and a dark maroon cheek. Flesh white, fine grained, not very tender, but with a rich, honeyed sweetness. December to February.

Summer Hagloe.

Tree vigorous, but slow in its growth while young, thick blunt shoots, productive.

Fruit large, roundish, oblate. Skin whitish yellow, striped and splashed with bright red, and covered with a thin bloom. Stalk short and thick, inserted in a broad, open cavity. Calyx closed, set in a small, round basin. Flesh white, rather coarse, tender, juicy, sub-acid. An excellent culinary variety. August.

Summer Queen. Coxe.

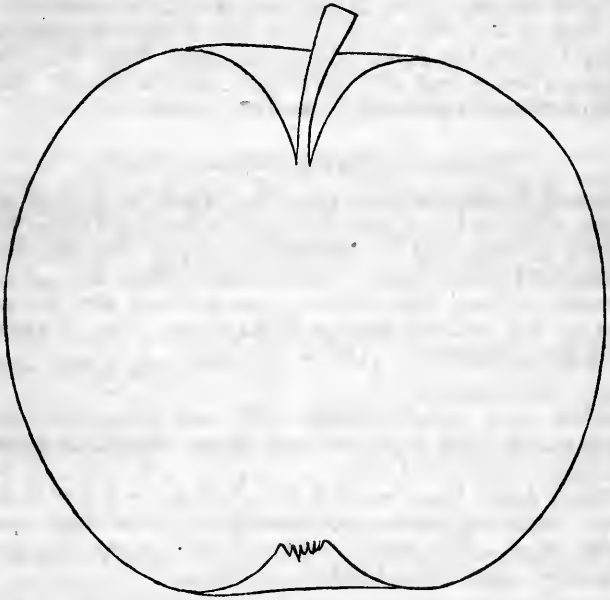
Sharpe's Early.

A popular midsummer apple for the dessert and kitchen. The fruit is large and broad at the crown, tapering towards the eye. The stalk is rather long, and is planted in a pretty deep cavity, sometimes partially closed. Calyx but little sunk, in a narrow plaited basin. Skin fine deep yellow in its ground, though well striped and clouded with red. Flesh aromatic, yellow, rich, and of good flavour. This variety forms a large tree with somewhat pendant boughs, and the fruit is in perfection by the tenth of August.

Summer Sweet Paradise.

A Pennsylvania fruit, sent to us by J. B. Garber, Esq., a zealous fruit-grower of Columbia, in that State. It is a large, fair, sweet apple, and is certainly one of the finest of its class for the dessert. The tree is an abundant bearer.

Fruit quite large, round and regular in its form, a little flattened at both ends. Skin rather thick, pale green, sometimes faintly tinged with yellow in the sun, and very distinctly marked with numerous, large, dark grey dots. Stalk strong, and set in an even, moderately deep hollow. Flesh tender, crisp, very juicy, with a sweet, rich, aromatic flavour. Ripe in August and September.



Summer Pippin.

Summer Pippin.

Sour Bough.

Origin unknown; an old fruit, much cultivated in Rockland and Westchester counties, N. Y., a valuable market fruit. Tree vigorous, forming a beautiful head, a regular and good bearer.

Fruit medium to large, variable in form, generally oblong oval or inclining to conic, angular and irregular. Skin pale waxen

yellow, shaded with a delicate crimson blush, and sprinkled with green and greyish dots. Stalk varies in length and thickness, inserted in a deep abrupt cavity. Calyx closed, set in a deep, abrupt, corrugated basin. Flesh white, tender, moderately juicy, with a pleasant, refreshing, sub-acid flavour, valuable for culinary uses. Ripens the middle of August, and continues a month or more.

Summer Bellflower.

Origin, farm of J. R. Comstock, Dutchess Co., N. Y. Tree vigorous, upright, productive.

Fruit medium or above, oval, inclining to conic. Skin smooth, clear yellow, with rarely a faint orange blush on the side of the sun. Stalk an inch long, stout at its insertion in a shallow cavity. Calyx closed, with small reflexed segments, set in a smooth, but slightly five-sided basin. Flesh white, fine grained, tender, with an excellent rich, sub-acid flavour. Middle of August to middle of September. (Hort.)

Summer Bellflower of Pennsylvania,

Wm. G. Waring, of Boalsburg, Pa., informs us, is quite distinct from the above, and very much resembles Yellow Bellflower in shape and colour, but has a very wide and deep cavity, and closed calyx. Flesh yellowish white, firm and fine texture, not very juicy, with a brisk, agreeable, very pleasant flavour, and decidedly the best of its season. Last of August and first of September. (W. G. Waring.)

Superb Sweet.

Raised by Jacob Dean, Mansfield, Mass. Tree vigorous, productive.

Fruit rather large, roundish, pale yellow, much red in the sun. Stalk long, inserted in a deep cavity. Calyx large, open, basin broad. Flesh white, very tender, juicy, sweet, rich, high flavoured. September, October. (Cole.)

Superb.

Origin, Franklin Co., North Carolina. Tree tolerably vigorous and a prodigious bearer.

Fruit medium or above, roundish, oblate, regular. Skin green, rarely with a blush. Stalk of medium length, in a shallow cavity. Calyx large and open. Flesh yellow, solid, slightly coarse grained, rich, and particularly high flavoured. November to March. This variety combines as many valuable properties as any other. (G. W. Johnson MS.)

Tetofsky. Thomp.

The Tetofsky is a Russian summer apple, which promises well.

Fruit of medium size, oblate conic, sometimes nearly round. Skin smooth, with a yellow ground handsomely striped with red, and, like most apples of that country, covered with a whitish bloom, under which is a shining skin. The flesh is white and juicy, with a sprightly and agreeable flavour. August. Succeeds at the North.

Tewksbury Winter Blush. Coxe.

Mr. Coxe says, this apple was brought from Tewksbury, Hunterdon county, N. J. It is a handsome, fair fruit, with more flavour and juiciness than is usual in long-keeping apples. They may be kept till August, without particular care, quite plump and sound. The size is small, rather flat. The skin smooth, yellow, with a red cheek. Flesh yellow, with more juice and flavour than any other long-keeping variety. The tree grows rapidly and straight—and the fruit hangs till late in the autumn. January to July.

Tinmouth.

Origin, Tinmouth, Vt. Tree a good grower and productive.

Fruit above medium, oblate. Skin whitish yellow, considerably shaded with carmine, and sprinkled with a few brown dots. Stem short, inserted in a deep cavity. Calyx partially closed, set in a rather large basin. Flesh whitish, juicy, tender, pleasant, mild, sub-acid. November to February.

Toccoa.

Muskmelon.

Originated with Jeremiah Taylor, Toccoa Falls, Habersham Co., Georgia.

Fruit rather large, conical, irregular. Skin yellow, striped with red. Stem short, in an irregular cavity. Calyx closed, in a small, irregular basin. Flesh yellow, with a brisk, rich, Spitzenburgh flavour, moderately juicy. First of August. (White's Gard.)

Townsend.

Origin, Pennsylvania. Tree healthy and vigorous, very productive.

Fruit medium, oblate, slightly conic. Skin pale yellow, striped and splashed with red, and covered with a thin bloom.

Stalk rather long, slender, inserted in a medium cavity. Calyx closed, set in a basin of moderate depth. Flesh white, tender, very mild, agreeable, sub-acid flavour. Ripe middle of August to middle of September. Hocking of the West may prove to be the same.

Trader's Fancy.

Originated in the nurseries of Solomon Phillips, Washington Co., Pa., a vigorous grower, a good and regular bearer, and popular where known, valued as a late keeper and market fruit at the Southwest. Specimens received from D. H. Wakefield, Brownsville, Fayette Co., Pa.

Fruit medium, oblate, roundish. Skin greenish, striped and shaded with dull red. Stalk slender, planted in a large cavity. Calyx closed, basin broad and corrugated. Flesh tender, juicy, with a mild, sub-acid flavour. January to May.

Trenton Early ?

Fruit above medium, irregular, ribbed, colour yellowish with slight undulations over the surface which are green. Skin smooth and oily, cavity wide, basin furrowed. Flesh not very fine grained, very light and tender, with a pleasant, sub-acid flavour, "very good." August. (T. McWhorter's MS.)

May prove to be English Codlin.

Tuft's Baldwin.

Fruit large, oblate, somewhat angular. Skin yellowish, much shaded and sometimes striped with red. Stalk in a large cavity. Calyx closed, in a plaited basin of moderate depth. Flesh crisp, rather juicy, with a flavour scarcely sub-acid, and slightly aromatic. September, October.

Twenty Ounce. H. Mag.

Morgan's Favourite.
Twenty Ounce Apple. } *of Cayuga Co., N. Y.*
Eighteen Ounce Apple. }
Aurora.
Coleman.
Cayuga Red Streak.
Lima.

A very large and showy apple, well known in Cayuga Co., but an old fruit from Connecticut. It is a good, sprightly fruit, though not very high flavoured, but its remarkably handsome appearance and large size render it one of the most popular fruits in market. The tree is thrifty and makes a compact, neat head, bears regular crops, and the fruit is always fair and handsome.

Fruit very large, roundish. Skin slightly uneven, greenish-yellow, boldly splashed and marbled with stripes of purplish-red.

Stalk short, set in a wide deep cavity. Calyx small, basin moderately deep. Flesh coarse-grained, with a sprightly, brisk sub-acid flavour. October to January. This is quite distinct from the TWENTY OUNCE PIPPIN, a large, smooth, dull-coloured cooking apple.

TWITCHELL'S SWEET.

Origin, Dublin, New Hampshire; a vigorous grower and very productive. Specimens received from Robert Wilson, Keene, N. H.

Fruit medium, conic, angular. Skin red, shaded with purple and partially sprinkled with small grey dots. Stalk long and slender, inserted in a deep cavity. Calyx small and closed, set in an abrupt, plaited basin. Flesh very white, veined with red under the skin and sometimes at the core, tender, very sweet and pleasant. November, December.

VANDEVERE.

White Vandevere. Vandevere of Pa.
Green Vandevere. Little Vandevere of Indiana.
Staiclubs.

The Vandevere is an old fruit, a native of Wilmington, Del., and took its name from a family there, and when growing on highly cultivated soil is much admired for culinary purposes, but is sometimes subject to bitter rot, and is now mostly superseded by the Smoke house and Republican Pippin, which are supposed to be seedlings of the old Vandever, and of much better quality, moderate, horizontal growth, not very productive. Fruit of medium size, oblate. Stem about an inch long, inserted in a deep cavity. Calyx small and closed, set in a round moderate basin. Colour waxen yellow, striped with red and covered with numerous green dots. Flesh yellowish, compact, but tender, with a fine rich, sub-acid flavour. October to January.

Red Vandevere is said to be distinct and of better quality, less subject to bitter rot.

VANDYNE.

Fruit large, roundish, slightly conic. Skin yellowish, with a tinge of red and slightly sprinkled with brown and reddish dots. Stalk rather slender, in a large cavity. Calyx closed, in a deep uneven basin. Flesh white, tender, juicy, sub-acid, agreeable. October.

VANDEVERE PIPPIN.

Indiana Vandevere.
Watson's Vandevere.
Big Vandevere.

Origin supposed to be Indiana, a rapid grower, spreading, and a moderate bearer.

Fruit large, oblate, approaching conic. Skin yellow, flaked all over with red, striped on the sunny side, and covered with rough brown dots. Stem short, inserted in a broad deep cavity, often russeted. Calyx partially closed, set in a moderate basin. Flesh greenish, crisp, with a brisk sub-acid flavour. September to February. Valuable for cooking and drying, popular at the West.

Vaughan's Winter.

Origin, Kentucky. Tree hardy, vigorous, and productive. Introduced by J. S. Downer of Elkton, Ky. Fruit medium, oblate, oblique, angular. Skin whitish, waxen yellow, shaded with crimson and lilac, and sometimes obscurely striped, and thickly covered with conspicuous light dots. Stalk small and short, inserted in a deep uneven cavity, surrounded by very thin green russet. Calyx open or partially closed; basin deep, abrupt, open, slightly corrugated. Flesh yellowish, tender, juicy, with a brisk, very agreeable vinous flavour. January to March.

Virginia Greening.

Fruit large, oblate. Skin yellowish, thinly covered with large brown dots. Stalk large, rather long, in a very large cavity. Calyx open; basin large, abrupt, rather uneven. Flesh yellow, coarse, with a rather pleasant sub-acid flavour. Esteemed at the south as a late keeper and a good market apple.

Walker's Yellow.

This noble apple is a native of Pulaski Co., Georgia, and introduced by George Walker. Fruit large, conic, fine golden yellow, with a faint blush on the sunny side. Stalk of moderate length, in a deep acute cavity; basin small. Flesh white, juicy, rather too acid for a dessert fruit. November to April.

Victuals and Drink.

Big Sweet. Pompey.

This is a large and delicious sweet apple, highly esteemed in the neighbourhood of Newark, New Jersey, where it originated, about 1750. It was first introduced to notice by Mr. J. W. Hayes, of Newark, from whom we first received trees and specimens of the fruit. The fruit is very light.

Fruit large, oblong, rather irregular, and varies a good deal in size. Skin thin, but rough, dull yellow, marbled with russet, with a faint russet blush on the sunny side. Stalk moderately long and slender, deeply inserted in an irregular cavity. Calyx small, set in a rather shallow basin. Flesh yellowish, tender, breaking, with a rich, sprightly, sweet flavour. In perfection

from October to January, but will keep till April. The tree is a moderate bearer.

Walpole.

Origin, Walpole, Mass. Fruit medium, roundish. Skin yellow, shaded and striped with bright red. Stalk short, cavity large. Calyx closed; basin shallow. Flesh yellowish, tender, juicy, with a sprightly sub-acid flavour. Last of August and first of September.

Washington Royal.

Origin farm of Joseph P. Hayward, Sterling, Mass. Fruit above medium size, flattish, round, yellowish green, with numerous small grey dots, and a clear red in the skin. Calyx in a broad basin. Stem slender, half an inch long. Flesh crisp, juicy, and fine flavoured, keeping till July. (N. E. Farm.)

Waxen of Coxe.

Origin supposed to be Virginia. Tree thrifty, young wood dark. Fruit medium, roundish, slightly oblate. Skin pale yellow, oily, sprinkled with a few dots. Stalk slender, in a deep cavity. Calyx closed; basin shallow. Flesh whitish yellow, crisp, tender, juicy, sprightly, mild, sub-acid. November, December.

Wellford's Yellow.

Origin, Essex Co., Virginia. Introduced by H. R. Robey, of Fredericksburgh, Va. A rapid grower, and a great bearer.

Fruit rather small, roundish, flattened. Skin pale yellow, with faint red streaks on one side. Flesh yellow, fine grained, very juicy, with a rich aromatic flavour. Keeps well until June, retaining its flavour. (H. R. Robey MS.)

Weston.

Origin, farm of Major Weston, Lincoln, Mass.

Fruit medium, roundish, conical. Skin light yellow, striped and splashed with red. Flesh white, moderately juicy, mild, pleasant flavour. October.

Western Spy.

Origin, farm of John Mansfield, Jefferson Co., Ohio. Tree a moderate grower, but very productive.

Fruit rather large, irregular, angular, considerably depressed. Skin yellow, often much shaded with crimson. Stem short and stout, inserted in a large cavity. Calyx closed, set in an abrupt basin. Flesh yellowish, tender, juicy, pleasant, sub-acid. Excellent for cooking. October to June.

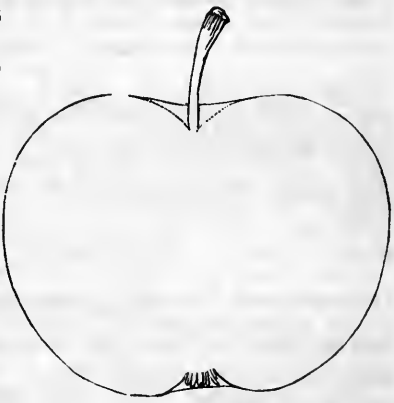
White Winter.

Origin, farm of Mr. Cacklin, Cumberland Co., Pennsylvania. Tree moderately vigorous; very productive. Fruit small, nearly globular. Skin light yellow, with a dull crimson cheek. Stem medium in an acute cavity. Calyx firmly closed, a little sunk in a very small basin. Flesh whitish, juicy, almost buttery, with a mild, sub-acid, but not rich flavour. January to May.

White Juneating. Ray. Thomp. Lind.

Owen's Golden Beauty, *ac. Thomp.*
Juneating. *Coxe.*

This is an old variety mentioned by Evelyn in 1660, and described by Ray in 1688, and is a very tolerable little apple, ripening among the very earliest, during the last of June and the first of July. It is very distinct from the Early Harvest, sometimes called by this name. Fruit small, round, a little flattened. Calyx closed in a wrinkled basin, moderately sunk. Stalk rather long and slender, three fourths of an inch in length, slightly inserted in a shallow depression. Skin smooth, pale green, at first light yellow, with sometimes a faint blush on the sunny side. Flesh crisp and of a pleasant flavour, but soon becomes dry. Tree straight, and forms an upright head. Early May of the South may be this.



White Juneating.

White Doctor.

Origin, Pennsylvania. Tree vigorous and productive. Fruit large, roundish, oblate. Skin greenish yellow. Stem short, set in an acute cavity. Calyx closed. Basin shallow and furrowed. Flesh white, tender, acid, sprightly but not rich. September, October.

White Spitzenberg.

Origin, Northampton Co., Pa.
Fruit medium, roundish, oblong. Skin yellow, interspersed

with large grey dots, with a blush on the exposed sides. Stem short, inserted in a moderately deep, open cavity, lined with green russet. Calyx small, closed, set in a shallow, narrow basin. Flesh breaking, sufficiently juicy, flavour sub-acid, with agreeable aroma, quality "very good." June. (W. D. Brinckle.)

White Rambo.

Fruit medium, oblate, approaching conic. Skin oily, yellowish-white. Stem short, in a large russeted cavity. Calyx closed, basin shallow, surrounded by prominences. Flesh yellowish, fine, rich, vinous, sub-acid. November.

White Pippin.

Canada Pippin.

This apple is much cultivated at the west, but of unknown origin. It is of the Newtown Pippin class, distinct from Canada Reinette. Tree thrifty, upright, a regular and good bearer.

Fruit large, form variable, oblong, oblate or conic, angular, oblique. Skin greenish-white, waxen, sprinkled with green dots, and becoming pale yellow at maturity, sometimes having a dull blush. Stem short, inserted in a large cavity, surrounded by green russet. Calyx small, nearly closed, set in an abrupt furrowed basin. Flesh white, tender, crisp, juicy, with a fine, rich, sub-acid flavour. January to March.

Willis's Russet.

Origin, farm of Mr. Willis, Sudbury, Mass. Tree hardy, vigorous, and an abundant bearer.

Fruit small, oblate, conic. Skin russet, on a yellow ground, and occasionally a sunny cheek. Stalk long, slender, curved, set in a large cavity. Calyx closed, basin shallow. Flesh tender, juicy, with a rich pear-like flavour. December, January.

William Penn.

A native of Columbia, Pa. Rather large, roundish, oblate, slightly conical. Colour greyish, delicately mottled and striped with red, on a greenish-yellow ground, with numerous white specks, in the centre of which is a minute russet dot. Stem short, not very stout, in an open rather deep russeted cavity, basin sometimes wide and shallow, usually narrow, rather deep and furrowed. Flesh greenish-yellow, juicy, with a delicious Spitzenberg aroma, quality "very good" if not "best." Represented as being an abundant bearer. February. (Ad. Int. Rep.)

Willow Twig.

A poor grower while very young, but becomes vigorous and an early and abundant bearer.

Fruit above medium size, roundish, slightly conic, somewhat oblate. Skin light yellow, shaded and marbled with dull red and sprinkled with numerous russet dots. Stalk rather short and slender. Cavity narrow, sometimes partially closed, with a lip. Calyx partially closed, in a somewhat corrugated abrupt basin. Flesh not very tender, with a pleasant sub-acid flavour; quality good; valuable for late keeping; popular at the west and south.

Winthrop Greening.

Lincoln Pippin. Howe Apple.

Origin, Winthrop, Maine.

Fruit large, golden yellow, with slight russet tinge of red in the sun. Flesh tender, crisp, very juicy, with a sprightly rich flavour. September. (Cole.)

Winn's Russet.

Origin, Sweden, Maine. Tree of slow growth, hardy and productive.

Fruit large, cavity deep, basin broad and shallow, colour dark russet, with obscure stripes of red covered with whitish spots. Flesh fine grained, sub-acid. Keeps till May. (Me. P. S. Rept.)

Winter Pippin of Vermont.

Origin unknown, much cultivated in Vermont; a fair grower and productive.

Fruit large, to very large, nearly globular, inclining to conic, obscurely angular. Skin greenish yellow, sprinkled with star-like crimson dots, cheek shaded with dull crimson. Stem short, inserted in a deep compressed cavity. Calyx small, nearly closed, segments long, in a rather deep uneven basin. Flesh white, tender, and agreeable. November to March.

Winthrop Pearmain.

Origin, Winthrop, Maine, size large, roundish, ovate. Skin yellow, striped with red, and deep red in the sun. Stem in a large cavity, basin shallow. Flesh white, juicy, flavour spicy and pleasant. September to January. (Me. P. S. R.)

Wine Apple. Coxe.

Hay's Winter.

The Wine Apple is a very handsome, and an admirable win-

ter fruit, a most abundant bearer, and a hardy tree. It is a native of Delaware. The tree has small leaves, grows thriftily, and makes a fine, spreading head.

Fruit rather above medium size—in rich soils large; form regular, nearly round, a little flattened at the ends. Skin smooth, of a lively deep red, over a yellow ground, or, more frequently, with a few indistinct stripes of yellow. Stalk short, inserted in a round, smooth cavity, with a little russet around it. Flesh yellowish-white, juicy and crisp, with a rather vinous, rich, and pleasant flavour. October to March.

Wright Apple.

Origin, Hubbardton, Vermont. Tree vigorous and productive.

Fruit medium, roundish, oblate. Skin fine lemon yellow. Stalk short, inserted in a deep cavity. Calyx closed, basin rather large and corrugated. Flesh white, very tender, juicy, vinous, almost sweet, aromatic. Middle of September to middle of October.

Yacht.

Origin, Montgomery Co., Pa. Tree of moderate growth, a regular bearer.

Fruit large, roundish, striped with red, with various hues on yellowish ground. Stalk short, inserted in a small cavity. Calyx open, set in a large, shallow basin. Flesh yellowish, tender, with a pleasant, sub-acid flavour. November to March.

Yellow Meadow.

A Southern fruit.

Fruit large, oblate. Skin greenish yellow. Stem rather slender, in a deep, irregular cavity. Calyx large and open, in a shallow basin. Flesh yellow, compact, flavour vinous, rich and excellent. November.

Yellow Pearmain.

Golden Pearmain.

Origin uncertain; probably a Southern fruit, moderate in growth and productiveness.

Fruit medium, obliquely conic, inclining to oblong. Skin yellowish, slightly shaded with dull red. Stem short, inserted by a lip in a very narrow cavity. Calyx small and closed, basin deep, round and open. Flesh yellowish, tender, with a pleasant, rich, vinous flavour, slightly aromatic. January to March.

Yopp's Favourite.

Fruit large, roundish, slightly conic. Skin smooth, oily,

greenish yellow, with a blush in the sun, sprinkled sparingly with russet dots, and a little russet about the stem. Calyx open in a deep basin. Stalk short, cavity deep. Flesh white, fine grained, tender, juicy, almost melting, of a most grateful, sub-acid flavour. From Thomas Co., Georgia. (Robert Nelson.)

York Imperial.

Johnson's Fine Winter.

Origin thought to be York Co., Pa. Tree moderately vigorous, productive.

Fruit medium, truncated, oval, angular. Skin greenish yellow, nearly covered with bright red. Stem short, moderately stout, cavity wide, rather deep. Calyx small, closed, set in a deep, wide, plaited basin. Flesh tender, crisp, juicy, aromatic, "very good." (Ad. Int. Rept.)

Yost.

A native of Berks Co., Pa. Tree large and spreading.

Fruit oblate, very much flattened. Skin yellow, striped and shaded with crimson, thinly dotted with brown. Stalk short, inserted in a very large cavity, slightly russeted. Calyx partially closed, basin broad and deep. Flesh yellowish, rather coarse, tender, juicy, with a pleasant, sub-acid flavour. December, January.

CLASS III.

contains those superseded by better sorts, yet many of them have qualities to recommend for certain localities and for certain purposes.

Alexander. Thomp.

Emperor Alexander. *Lind. Ron.* Russian Emperor. Aporta.

A very large, showy Russian variety, for cooking, not profitable.

Fruit very large, regularly formed, conical. Skin greenish yellow, faintly streaked with red on the shaded side, but orange, brilliantly streaked and marked with bright red, in the sun. Calyx large, set in a deep basin. Stalk rather slender, three fourths of an inch long, planted in a deep cavity. Flesh yellowish white, crisp, tender and juicy, with a rather pleasant flavour. A moderate bearer. October to December.

Alfriston. Thomp. Lind. Ron.

Lord Gwydr's Newtown Pippin.
Oldaker's New. } *ac. to Thomp.*

A third rate apple, valued in England for cooking. Fruit

large, roundish, a little ribbed, and rather broadest at the base. Skin pale greenish-yellow. Flesh yellowish white, crisp, tender, with a tolerable, somewhat acid flavour. October to January.

American Pippin. Coxe. Thomp.

Grindstone.

Valuable only for its late keeping and for cider.

Fruit of medium size and regular form, roundish, somewhat flattened. Skin dull red in patches and stripes, on a dull green ground. Flesh white, firm, juicy, with a somewhat brisk, acid flavour. Keeps till June. Trees with crooked shoots.

Angle.

Medium, roundish, yellow, nearly covered with stripes and splashes of light and dark red with white dots. Flesh yellow, tender, sweet and good, fair and handsome. First of September.

Augustine.

Large, roundish, conic, yellow, striped with red, sweet and dry. August.

Baldwin Sweet.

Fruit rather large, roundish, yellow, striped and shaded with red. Flesh yellow, rather compact, sweet and good. Productive. October, January.

Barrett.

Origin, Connecticut. Rather large, conic. Skin yellow, striped and splashed with crimson. Flesh yellow, juicy, tender, with a pleasant, vinous, aromatic flavour. January to March.

Bedfordshire Foundling. Thomp. Lind.

A large green English apple, excellent for kitchen use. Fruit large, roundish, obscurely ribbed. Skin deep green, paler at maturity. Flesh yellowish, tender, juicy, with a pleasant, acid flavour. October to February.

Belle-Fleur, Red.

Belle-Fleur. *Poiteau.* Belle-Fleur Rouge? *Thomp.*

A French variety scarcely worth cultivation.

Fruit large, regular, oblong-conical. Skin pale greenish-yellow, but nearly covered with red, striped with dark red. Flesh white, tender, of tolerable, mild flavour, apt to become mealy. November to January.

Belden or Red Cheek.

Origin unknown. Tree vigorous, moderately productive. Fruit large, roundish, conic. Skin yellow, with patches of russet, sometimes a little bronzed cheek. Flesh yellow, crisp, sub-acid, pleasant. October, February.

Birmingham.

Of moderate growth, productive. Fruit medium, obliquely oblate. Skin yellow, sprinkled with a few whitish dots. Stem long, slender, in a broad deep cavity. Calyx closed, in a large, corrugated basin. Flesh yellowish, tender, rather acid, good for cooking. September.

Black Apple. Coxe.

Black American. *Thomp.*

A native fruit, of a very dark red colour, and of a mild, rather agreeable flavour.

Fruit rather below medium size, round or very slightly flattened. Skin dark red, almost black, with a mealy whitish bloom on the surface. Flesh yellowish red, tender, and of medium quality. The tree when fully grown has a rather drooping head. Ripe from November to February.

Black Oxford.

From Oxford, Maine, valued as a late keeper and good bearer. Fruit below medium, roundish, oblate, slightly conic. Skin yellow, almost covered with red, and very dark red on the exposed side. Flesh whitish, compact, not very juicy but pleasant, mild, sub-acid. January to May.

Black Gilliflower.

Medium size, oblong, conical. Skin very dark, dull red. Flesh white, dry, mild, sub-acid. November to February. Very productive, and some call it a profitable market fruit.

Blenheim Pippin. Thomp. Lind.

Blenheim Orange.
Woodstock Pippin.

Fruit medium, roundish. Skin yellowish, becoming deep orange, stained on the sunny side with dull and dark red stripes. Flesh yellow, breaking, very sweet, and of tolerable flavour. October to December.

Borsdorffer. Thomp. Kuoop.

Borsdorff. *Lind.*
King George the Third. *Ron.*
Queen's,
Reinnette Bâtarde,
Edler Winter Borsdorffer,
Reinnette de Misnie,
Ganet Pippin,
King,
Le Grand Bohemian Borsdorffer,
} *of various gardens, ac. to Thomp.*

A small, celebrated German apple. Fruit roundish-oval, narrowing at the eye. Skin pale yellow, with a full red cheek, sprinkled with a little russet. Flesh yellowish-white, very firm and crisp, with a rich, brisk, perfumed flavour. November to February.

Borivitsky.

A Russian apple of medium size, roundish, angular. Skin pale green, faintly striped. Flesh white, firm, sub-acid. August.

Boxford.

Fruit medium, oblate. Skin whitish, striped with red. Flesh compact, not very juicy nor high flavour. September, October.

Brewer.

From Mass., a good grower, an annual bearer. Fruit very large, roundish, yellow, with a slight blush. Flesh yellowish, tender, pleasant, mild, sub-acid. October, November.

Burnhap Greening.

Origin, Vergennes, Vt. Good grower and regular bearer. Medium, nearly globular, inclining to conic; skin greenish yellow. Flesh solid, juicy, crisp, with a pleasant sub-acid flavour. January and February.

Cake Apple.

From Connecticut. Medium, oblate, much depressed. Skin yellowish, with a blush. Flesh juicy, tender, pleasant. January to March.

Calville, White Winter. Lind.

Calville Blanche d'Hiver. *Thomp. O. Duh. Noisette.*
White Calville. *Coxe.*

The White Winter Calville is a celebrated old French sauce and cooking apple; but like most others of its class, is not worthy of cultivation here.

Fruit medium, roundish, conic, ribbed. Skin yellow, faint blush. Flesh coarse, tender, pleasant. November, February.

Calville, Red Winter. Lind.

Calville Rouge d'Hiver. *Thomp. Noisette.*
Calville Rouge. *O. Duh.*
Red Calville. *Coxe.*

Fruit medium, roundish, conic, ribbed. Skin pale, and dark red. Flesh tender, mild, sub-acid. November to February.

Cambuthnethan Pippin.

A Scotch variety, medium, roundish. Skin light yellow, striped and shaded with crimson and dark red. Flesh yellowish, juicy, sub-acid. September, December.

Cann.

Sweet Cann.

Tree vigorous and productive. Fruit large, conic. Skin greenish with a dull crimson cheek, slightly sprinkled with brown dots. Flesh white, compact, not very juicy, sweet, and pleasant, core large. December to March.

Carmel Sweet.

An old variety from Westchester Co., N. Y. Fruit medium, oblate. Skin yellowish green, with a slight blush. Flesh white, juicy, tender, sweet, and rich. October, November.

Carbage.

Medium, roundish, conic, yellow. Flesh tender, juicy, sweet, without much flavour.

Cash Sweet.

Medium size, oblate, conic. Skin whitish, with a blush. Flesh white, compact, sweet, and rather dry. September.

Catline. Coxe. Thomp.

Gregson Apple.

Origin, Maryland. Tree of slow growth, very productive, much esteemed in the lower part of Delaware. Below medium size, oblate, yellow, bright red cheek, with stripes. Flesh tender, rich, juicy, and sweet. October to December.

Cathead Sweet.

Tree hardy, good bearer. Fruit large, roundish, conic. Skin

greenish yellow slight blush. Flesh white, tender, sweet, not rich. October.

Catshead. Coxe. Lind.

Round Catshead. *Thomp.*
Cathead Greening.

A very large apple, cultivated for drying in some parts of the country, but of little other value except as a cooking apple.

Fruit of the largest size, round. Skin quite smooth, pale green. Flesh tender, with a sub-acid juice. October and November.

Cheeseborough Russet.

Howard Russet. Kingsbury Russet.

An old fruit of little value, large, conical, green russet. Flesh coarse, dry, sub-acid. October, November.

Cluster.

Fruit small, yellow, oblate, sweet. Very productive.

Cornish Aromatic. Thomp. Lind.

English apple. Fruit of medium size, roundish, angular. Skin rich red, much marked with russet yellow dots, on a pale russet ground. Flesh yellow, with a rich, aromatic, sub-acid flavour. October to December.

Cram or Kram.

An old fruit nearly out of use and not worth cultivating.

Crow Egg.

Egg Jop?

An old variety of not very good quality, oblong oval, long stem, greenish yellow, tender, sweet, large core. October, November.

There is also another Crow Egg in Kentucky, of conical form, yellow, striped with dull red. Stem short. Flesh yellow, compact, sub-acid, good. December, January.

Doctor. Coxe. Thomp.

Red Doctor. De Witt.

A Pennsylvania apple; the tree is rather an indifferent grower and bearer.

Fruit medium sized, regularly formed and flat. Skin smooth, yellow, striped and washed with two or three shades of red, with a few darker spots. Flesh tender, juicy, and breaking in its texture, with a slightly aromatic flavour. October to January.

Dodge's Early Red.

Fruit medium, roundish. Skin yellow, striped and splashed with deep red. Flesh white, often stained, not very tender, but with an agreeable aromatic flavour. Middle of August.

Dumelow's Seedling.

Wellington. Dumelow's Crab.

English, rather large, roundish, yellow, with a blush. Flesh yellow, crisp, brisk, acid. November to March.

Dutch Codlin. Thomp. Lind. Ron.

Chalmer's Large.

A very large kitchen apple, valued only for cooking, from August to September. Fruit of the largest size, irregularly roundish, or rather oblong, strongly marked by ribs extending from the base to the eye. Skin pale yellow, becoming orange yellow on the sunny side. Flesh white, sub-acid, and moderately juicy.

Early Chandler.

Tree vigorous, productive, medium or small, roundish, conic. Skin mostly shaded and striped with red on yellow ground. Flesh tender, juicy, sub-acid, fine for cooking. August.

Easter Pippin. Thomp. Lind.

Young's Long Keeping.
Clarmont Pippin.
Ironstone Pippin.
French Crab. *Forsyth, (not of Coxe.)*

Remarkable for keeping sound and firm two years. It is an English variety. Fruit of medium size, skin deep green, with a pale brown blush. Flesh very firm, and though not juicy, of a good, sub-acid flavour.

Ellis.

From Conn. Small roundish, greenish yellow, brown cheek. Flesh firm, juicy, pleasant, a long keeper. April, May.

Epsy.

From Vermont. A handsome productive fruit, small, elongated conic, deep red, almost crimson. Flesh whitish, sweet, and rich. December, January.

Fall Jenneting.

Tree vigorous, and very productive. Fruit large, oblate. Skin pale greenish yellow, with a blush. Stalk medium length, cavity large. Calyx closed; basin small, open. Flesh whitish, tender, juicy, pleasant, sub-acid. November.

Fenouillet Gris. Thomp. Poit. Nois.

Fruit small, roundish. Skin light russet on yellow ground. Flesh firm, with a saccharine perfumed flavour. December to February.

Fenouillet Rouge. Thomp. Poit. Lind. O. Duh.

Bardin. Court-pendu Gris.

Fruit small, roundish. Skin rough, greyish, with dark brownish red. Flesh firm, sugary. October, January.

Fenouillet Jaune. Thomp. Poit. Coxe.

Embroidered Pippin. *Lind.*
Drap d'Or. *O Duh. No.* 12. *Knoop.*
Pomme de Caractère.

A French fruit, which has not proved of much value here.

Fruit small, roundish. Yellow grey russet network. Flesh white, firm, aromatic flavour. October to March.

Flat Sweet.

An old eastern fruit, and much valued where known.

Fruit large, oblate, slightly conic, angular. Yellow, sometimes with sunny cheek, and slight russet. Flesh white, tender, juicy, with a fine, rich, saccharine flavour.

Flower of Kent. Thomp. Lind. Ron.

A large and handsome English apple, chiefly valued for baking and kitchen use.

Fruit quite large, roundish, conic, angular. Skin tawny yellow, washed with dull red, with occasionally a few stripes of brighter red. Flesh greenish yellow, abounding with a lively, sub-acid juice. October to January.

Gloria Mundi. Thomp.

Monstrous Pippin. *Coxe. Floy. Ken.*
Baltimore.
Glazenwood Gloria Mundi.
New York Gloria Mundi.
American Mammoth.
Ox Apple.

Origin unknown. Tree vigorous. Not productive or profitable.

Fruit very large, roundish, oblate, angular. Skin greenish yellow. Flesh coarse, tender, with a pleasant acid flavour. October to January.

Gloucester White.

Origin, Gloucester, Va. Tree vigorous and very productive.

Fruit medium, roundish, oblate. Skin fine yellow. Flesh yellow, juicy, rich, aromatic. October.

Golden Harvey. Thomp. Lind. Ron.

Brandy Apple. *Forsythe.*

An excellent, high flavoured little dessert apple from England, of slender growth.

Fruit small, irregularly round. Skin rather rough, dull russet over a yellow ground, with a russety red cheek. Flesh yellow, of fine texture, with a spicy, rich, sub-acid flavour. The fruit is apt to shrivel. December to April.

Golden Apple.

Tree vigorous, productive, large, oblate. Skin golden yellow, slightly sprinkled with brown dots. Flesh yellow, coarse, juicy, tender, with a mild, rich, sub acid flavour. October to December.

Green Domine.

Medium, oblate, greenish yellow, washed, or obscurely striped with dull red. Flesh whitish, firm, with a pleasant, peculiar flavour. December, February.

Greyhouse.

Medium, oblate, nearly globular, dull red, with faint stripes. Flesh firm and dry; said to be fine for cider. Winter.

Harvest Red Streak.

From Michigan, a local name, probably an old variety, small or medium, oblate, angular. Skin whitish, striped and splashed

with bright red. Flesh white, coarse, somewhat stained, very tender, juicy, acid, valuable only for cooking. Last of July and August.

Hewitt's Sweet.

Large, oblate, yellow, splashed with red. Flesh whitish, sweet, tender and pleasant. October, November, productive.

Hoary Morning. Thomp. Lind. Ron.

Dainty Apple. Downy.
Sam Rawlings.

An English fruit for culinary purposes; large, oblate, conic. Skin yellow, splashed and striped with red, and covered with a bloom. Flesh firm, brisk, sub-acid. October, December.

Holland Sweet.

Fruit medium, conic, green, with stripes of dull red. Flesh firm, sweet, and valuable for long keeping and culinary uses. January to May.

Hunge.

Hunger.

Origin uncertain, popular and long cultivated in North Caro lina. Tree vigorous and very productive.

Fruit large, roundish. Skin green, with a blush. Flesh soft, sub-acid, pleasant, valuable for drying and culinary uses. Sep tember, October.

Indian Prince.

Fruit medium, roundish. Skin deep red, sprinkled with whitish dots. Flesh yellowish, rather firm, juicy, with a plea sant aromatic flavour. September, October.

Irish Peach Apple. Thomp. Lind. P. Mag.

Early Crofton. *Ronalds.*

Fruit of medium size, round or a little flattened, and obtusely augular. Skin yellowish green, with small dots in the shade, washed and streaked with brownish red in the sun. Flesh white, tender, juicy, and pretty well flavoured. August.

Kenrick's Autumn. Ken.

Fruit large roundish. Skin pale, yellowish-green, striped and stained with bright red. Flesh white, a little stained with red, tender, juicy, and of a sprightly acid flavour. September.

Kerry Pippin. Thomp. Lind. Ron.

Edmonton's Aromatic Pippin, *ac, Thomp.*

An Irish dessert apple.

Fruit middle size, oval, a little flattened at the eye. Skin pale yellow. Flesh yellow, tender, crisp, with a sugary flavour. Ripens in September and October.

Kilham Hill. Man.

A native of Essex Co., Mass., raised by Daniel Kilham.

Fruit pretty large, roundish, ribbed, narrowing to the eye. Skin pale yellow, slightly splashed with red in the shade, deep red in the sun. Flesh of sprightly, rather high flavour, but is apt to become dry and mealy. September.

King of the Pippins. Thomp. Lind. Ron.

Hampshire Yellow.

An English fruit of poor quality, medium size, roundish, oblate, pale yellow, washed and striped with red. Flesh very firm, sharp, sub-acid. October, November.

Kirk's Lord Nelson. Thomp. Lind. Ron.

English fruit, large, roundish. Skin light yellow, striped and mottled with bright red. Flesh firm, juicy, but not rich. October, November.

Lemon Pippin. Thomp. Forsyth.

Kirke's Lemon Pippin.

An English variety of medium size, oval. Skin lemon yellow. Flesh firm, brisk, sub-acid. October.

Longville's Kernel. Thomp. Lind. P. Mag.

Sam's Crab.

English fruit, rather below medium size, oval, rather flattened. Skin greenish yellow, streaked with pale brownish red, with a few streaks of bright red. Flesh firm, yellow, slightly perfumed, sub-acid. August and September.

Lovett's Sweet.

Origin, Beverley, Mass.

Fruit medium, roundish, conic. Skin yellow. Flesh yellow, moderately juicy, sweet and pleasant. October to February.

Lucombe's Seedling.

English; large, roundish, angular. Skin whitish, striped and splashed with red. Flesh firm, juicy, good for cooking. October, November.

Margil. Thomp. Lind. Ron.

Neverfail. Munche's Pippin.

An old English dessert apple, of slender growth.

Fruit small, roundish, oblate, yellow, striped with red. Flesh yellow, firm, aromatic. October, November.

Melvill Sweet.

Origin, Concord, Mass. Tree vigorous and productive.

Fruit medium, roundish. Skin yellowish green, striped with pale red. Flesh rich and sugary. November to February. (Cole.)

Menagère. Thomp. Man.

We received this fruit from Mr. Manning, who, we believe, had it from Germany; it is only fit for cooking.

Fruit very large, regularly formed, but very much flattened. Skin pale yellow, with sometimes a little red in the sun. Flesh tolerably juicy. September to January.

Merritt's Sweet.

Fruit medium, oblate, yellow, sometimes with a blush. Flesh compact, very sweet, good for culinary use, and stock feeding. Last of August; productive.

Methodist.

From Connecticut. Tree vigorous and productive, medium size, oblong, oval. Skin greenish, marbled and striped with red. Flesh white, tender, mild, sub-acid, not rich. November.

Milam.

Harrigan. Winter Pearmain of some.

Origin uncertain, much grown in some sections at the West, very productive and keeps well.

Fruit medium or below, roundish, greenish, shaded and striped with red. Flesh rather firm, pleasant, sub-acid, not rich. December, March.

Monarch.

Fruit medium, roundish, oblate, regular. Skin light red, splashed and striped with dark red, and numerous light dots. Flesh juicy, not very tender, but rich, pleasant, sub-acid. September, October.

Moore's Sweet.

Red Sweet Pippin.

Tree moderately vigorous, very productive.

Fruit medium, oblate, deep red. Flesh rather dry, sweet, keeps well, and valuable for stock feeding. January to April.

Murphy. Man. Ken.

Raised by Mr. D. Murphy, of Salem, Mass.

Fruit pretty large, roundish, oblong. Skin pale red, streaked with darker red, and marked with blotches of the same colour. Flesh white, tender, with an agreeable flavour. November to February.

Norfolk Beaufin. Thomp. Lind.

Read's Baker. Catshead Beaufin.

A large English fruit, only fit for cooking purposes. Skin dull red, on greenish ground. Flesh firm, sub-acid, poor. January to May.

Nonpareil Scarlet. Thomp. Lind. Ron.

New Scarlet Nonpareil.

Foreign; medium size, roundish, conical. Skin whitish, striped and shaded with red. Flesh white, firm, juicy, sub-acid. November, December.

Nonsuch. Thomp. Lind.

Nonsuch. *Ron. Forsyth.*

An old English sort.

Fruit of medium size, regular form, flat. Skin greenish yellow, striped and spotted with dull brick red. Flesh white, soft, with a plentiful sub-acid juice. A great bearer.

Nonpareil, Old. Lang. Lind. Thomp.

English Nonpareil. Non Pareille. *O. Duh.*

The Old Nonpareil is a favourite apple in England, but it is little esteemed in this country. November to January.

Fruit below medium size, roundish, a little ovate, and flattened. Skin greenish-yellow, thinly coated with pale russet. Flesh firm, crisp, with a rich, acid, poignant flavour.

Old Field.

Origin, Connecticut, a good grower, bears well, an old variety.

Fruit medium, oblate, conic. Skin yellow, with a slight blush. Flesh yellowish, tender, pleasant, mild, sub-acid. January to April.

Oslin. Thomp. Lind.

Arbroath Pippin. *Forsyth.*

An excellent Scotch apple, ripening early in August. Form oblate, below medium size. Skin rather tough, clear lemon yellow when quite ripe, and sprinkled with a few greyish, green dots. Flesh yellowish, firm, crisp, juicy, with a spicy aromatic flavour. Tree vigorous and productive.

Pearson's Plate. Thomp.

A new variety from England, and not yet tested here, but which has a very high reputation.

Fruit small, about two and a half inches in diameter, regularly formed, flat. Skin greenish-yellow, becoming yellow, with a little red in the sun. Flavour first rate in all respects. Mr. Thomson says this is a good bearer, and a remarkably handsome dessert fruit.

Pearmain, Blue. Man. Ken. Thomp.

Fruit of the largest size, roundish, regularly formed, very slightly conical. Skin covered with stripes and blotches of dark purplish-red, over a dull ground—and appearing bluish from the white bloom. Flesh yellowish, mild, rather rich and good. The tree grows strongly, and bears moderate crops. October to February.

Pearmain, Adams. Thomp. Lind.

Norfolk Pippin.

Fruit of medium size, conical, yellow, striped and shaded with crimson, and a few grey dots. Flesh yellowish, crisp, firm, rich, aromatic. October to November.

Pearmain, Claygate. Thomp. Lind.

English, not yet tested.

Fruit of medium size, and Pearmain shape. Skin greenish-yellow, nearly covered with brownish red. Flesh yellow, tender, with a very rich, aromatic "Ribston pippin flavour." The tree is very hardy. November to March.

Pennock's Red Winter. Thomp.

Pennock. *Coxe.*
Big Romanite. Red Pennock.
Large Romanite. Neisley's Winter Penick.

A Pennsylvania fruit, subject to bitter rot in most sections, yet it succeeds in a few places.

Fruit quite large, oblique, generally flat, but occasionally roundish-oblong. Skin fine deep red, with faint, indistinct streaks of yellow. Flesh yellow, tender and juicy, with a pleasant, sweet flavour. The tree is large, makes a firm, spreading head, and is a regular bearer. November to March.

Pennington's Seedling. Thomp. Lind.

An English fruit of medium size, nearly flat, a little angular. Skin mostly covered with rough yellow russet, with a little pale brown in the sun. Flesh yellowish, firm, crisp, with a brisk, acid juice. November to March.

Pine Apple Russet.

Tree of moderate growth, fruit not fair or very valuable.

Fruit medium, conic, angular. Skin whitish yellow, faintly striped. Stalk rather long and slender, cavity uneven and slightly russeted. Calyx closed, basin shallow, corrugated. Flesh whitish, juicy, tender, sub-acid, slightly aromatic. Last of September and October.

Pound Royal.

Probably of French origin, fruit apt to be unfair, unless with high culture.

Fruit large, roundish-oblong, with a slightly uneven surface. Skin pale yellowish-white, rarely with a faint blush, and marked when ripe with a few large ruddy or dark specks. Flesh very tender, breaking, fine grained, with a mild, agreeable, sprightly flavour. In use from December to April.

Press.

Origin, Bucks Co., Pa., rather large, oblate. Skin whitish yellow, striped and splashed with red. Flesh juicy, tender, pleasant, mild, sub-acid. March.

President.

Origin, Essex Co., Mass. Tree vigorous, productive.

Fruit large, roundish oblong. Skin pale yellow, with brown dots. Flesh yellow, firm, juicy, sub-acid. September, October.

Priestly. Coxe. Thomp.

Priestley's American.

Origin, Pennsylvania. Tree vigorous, upright, and productive.

Fruit large, roundish-oblong. Skin smooth, dull red, with small streaks of yellowish green. Flesh white, moderately juicy, with a spicy, agreeable flavour. December to March.

Prolific Sweet.

From Connecticut. Good grower, very productive, fine for cooking, roundish, conic. Skin greenish. Flesh whitish, tender, with a pleasant, sweet, spicy flavour. November to February.

Pumpkin Russet.

Sweet Russet. *Kenrick.*
Pumpkin Sweet, Flint Russet, York Russet. } *of some.*

Fruit large, round. Flesh, pale yellowish green, slightly covered with russet. Stalk long, set in a wide shallow cavity. Eye narrow, slightly sunk. Flesh exceedingly rich and sweet. September to January. Trees large and spreading, inclined to rot. Not valuable.

Red Ingestrie. Thomp. Lind.

Raised by Mr. Knight. This is greatly admired as a dessert apple in England, but not here.

Fruit small, oblong or ovate, with a wide basin at the eye, and a short and slender stalk. Skin bright yellow, tinged and mottled with red on the sunny side. Flesh very firm, juicy and high flavoured. Ripens in September and October.

The Yellow Ingestrie differs from the above as follows: fruit of smaller size, of a clear, bright gold colour, without red. Eye small and shallow. Flesh tender and delicate, with a plentiful juice when freshly gathered from the tree. October.

Red and Green Sweet.

Very large, oblong, conic, ribbed. Skin greenish white with

stripes of red. Flesh white, tender, sweet; a good fruit for baking and stock-feeding; bears moderate crops annually. Middle of August to middle of September.

Red Pound Sweet.

Tree vigorous, not very productive. Fruit very large, roundish, conic. Skin yellow, shaded and striped with red. Flesh white, juicy, sweet, aromatic; excellent for culinary use. September.

Reinette Triomphante. M. Christ.

Victorious Reinette.

A German early winter apple. Fruit large, oblong, regularly formed. Skin pale yellow, thickly dotted with white specks, and rough, projecting warts. Flesh yellow, firm, juicy, with a pleasant aromatic flavour. The tree is of thrifty growth, and is said to bear well.

Ross Nonpareil. Thomp. Lind. Ron.

An Irish fruit, rather below medium size, roundish, narrowing a little to the eye. Skin covered with a thin mellow russet, and faintly stained with red on the sunny side. Flesh greenish white, tender, with a rich aromatic flavor. A profuse bearer. Very subject to rot before ripening. Unprofitable. October.

Rymer.

Foreign origin, large, oblate, conic, angular. Skin pale yellow, shaded with crimson. Flesh yellowish, rather firm, brisk, subacid. November, December.

Sam Young. Thomp. Lind. P. Mag.

Irish Russet.

Origin, Ireland. Fruit small, slightly flattened, and regularly formed. Skin bright yellow, a good deal covered with grey russet. Flesh greenish, quite juicy and tender, with a rich and excellent flavour. November to January.

Spice Sweet.

Berry Bough.

Tree vigorous, productive, medium, oblate, smooth, pale yellow. Flesh rather firm, sweet, highly aromatic; apt to be knotty and unfair. August, September.

Sponge.

Fruit large, roundish; skin greenish, striped with dull red, dotted with whitish spots. Flesh white, coarse, sub-acid; a kitchen fruit. October and November.

Sprague.

Size rather small, oblong oval, slightly conic. Skin yellow, flesh yellow, juicy, tender, sprightly, sub-acid. October.

Steel's Sweet.

Origin, Kensington, Conn.; productive, keeps well, but not always fair.

Fruit medium, globular, angular, yellowish, slight blush. Flesh white, compact, juicy, with a peculiar saccharine flavour. December to March.

Stroat. Floy. Ken.

Straat. *Thomp.*

An apple formerly in high esteem among the descendants of the Dutch settlers on the North River. Not profitable.

Fruit above the middle size, regularly formed, roundish oblong, and tapering a little to the eye. Skin smooth, yellowish green. Flesh yellow, very tender, with an excellent, rich, brisk flavour. In eating from September to December.

Surprise. Thomp.

A small, round, whitish yellow apple, of little or no value, but admired by some for its singularity—the flesh being stained with red. November to January.

Summer Golden Pippin. Thomp. Lind. P. Mag.

A nice little English dessert apple, but inferior to many of our own. Fruit small, ovate, flattened at the eye. Skin shining bright yellow, with a little orange next the sun. Flesh yellow, firm, crisp, and rich. August.

Sweet and Sour.

Fruit large, oblate, ribbed, the ribs being green, and the intervening hollows light yellow; the ribs bearing the flavour of the fruit, which is acid, the intervening hollows being almost flavourless, but sweetish; this portion not having its juice well elaborated. December, February.

Table Greening.

Origin, Cornish, Maine. Promises to be valuable, as a very late keeper. Medium size, pleasant flavour.

Tift's Sweet.

Origin, New England.
Fruit medium, oblate. Skin green, netted with russet, sometimes with a dull brown cheek. Flesh yellowish, exceedingly sweet and rich. A regular but not profuse bearer. September, October. Requires high culture.

Titus Pippin.

Tree vigorous and productive.
Fruit large, oblong conic. Skin light yellow. Flesh tender, juicy, not high flavoured. November, December.

Turn off Lane.

Winter Strawberry.

Origin, Salem, New Jersey. Medium or below oblate, yellow, striped with red; brisk, sprightly flavour. Prized in the neighbourhood of its origin as a late keeper.

Turkey Greening.

From Connecticut. Fruit fair and very productive, large, oblate, slightly conic. Skin green, with a dull blush and many light dots. Flesh greenish, tender, juicy, sub-acid, not rich. January, February.

Watson's Dumpling.

A large English kitchen apple, nearly round, yellowish green, faintly striped with dull red. Flesh juicy, pleasant, sub-acid. October to January.

Wetherill's White Sweet.

From New Jersey. Tree vigorous, very productive.
Fruit large, yellow. Flesh white, sweet. September.

White Sweet.

Origin, Maine. Tree vigorous, very productive.
Fruit medium, roundish, oblate. Skin white, with a slight crimson cheek. Flesh white, compact, juicy, very sweet, excellent for culinary uses and stock feeding. September, October.

White Astrachan. Thomp. Lind. P. Mag.

Pyrus Astracanica. *De Candolle,*
Transparent de Moscovie,
Glace de Zélande,
} *of the French gardens.*

A nearly white, semi-transparent, Russian apple.

Fruit of medium size, roundish. Skin very smooth, nearly white, with a few faint streaks of red on one side, and covered with a white bloom. Flesh quite white, partially transparent, tender, and of delicate flavour, but rather dry. First of August.

Wing Sweet.

Medium size, oblate, angular, colour light red, striped and splashed with dark red. Flesh white, tender, sweet and pleasant. October. Great bearer.

Winter Queen. Coxe.

Winter Queening. *Thomp.*

Fruit medium, conical. Skin fine deep crimson in the sun, dotted with yellow; of a paler and livelier red, in the shade. Flesh yellowish, of a mild and rather pleasant, sub-acid flavour. The tree is an abundant bearer. November to February.

Wormsley Pippin. Thomp. Lind. P. Mag.

Knight's Codlin.

An English fruit, middle-sized, roundish, tapering a little towards the eye. Skin pale green, or straw colour, darker next the sun. Flesh white, crisp, firm, with a sharp, sub-acid juice. September.

CLASS IV.

CIDER APPLES.

Cooper's Russeting. Coxe.

This native apple is especially suited to light sandy soils, where some other sorts fail. It makes an exceedingly strong cider of delicious flavour.

Fruit small, oblong or ovate, pale yellow, partially covered with russet. Stalk slender, and very long. Flesh dry, rich and sweet. The fruit is fit for cider in November, keeps well through the winter, and is esteemed by many for cooking. Tree small, with numerous little branches.

Campfield. Coxe.

Newark Sweeting. Sweet Maiden's Blush.

Another capital New Jersey cider apple, ranking next to the Harrison. It forms a fine large tree, with straight, spreading limbs, and is very productive. Fine for baking and stock feeding.

Fruit of medium size, roundish, rather flattened. Skin smooth, washed and striped with red, over a greenish-yellow ground. Flesh white, rather dry, firm, rich and sweet. April, May.

Gilpin. Coxe. Thomp.

Carthouse. Small Romanite.
Romanite of the West.

A handsome cider fruit, from Virginia, which is also a very good table fruit from February to May. A very hardy, vigorous and fruitful tree.

Fruit of medium size, roundish-oblong. Skin very smooth and handsome, richly streaked with deep red and yellow. Stalk short, deeply inserted. Calyx in a round, rather deep basin. Flesh yellow, firm, juicy and rich, becoming tender and sprightly in the spring.

Harrison. Coxe.

New Jersey is the most celebrated cider making district in America, and this apple, which originated in Essex County, of that State, has long enjoyed the highest reputation as a cider fruit. Ten bushels of the apples make a barrel of cider. The tree grows thriftily, and bears very large crops.

Fruit medium size, ovate or roundish-oblong. Skin yellow, with roughish, distinct black specks. Stem one inch, or more, long. Flesh yellow, rather dry and tough, but with a rich flavour, producing a high coloured cider, of great body. The fruit is very free from rot, falls easily from the tree about the first of November, and keeps well. The best cider of this variety, is worth from six to ten dollars a barrel, in New York.

Hewe's Virginia Crab. Coxe.

The Virginia Crab makes a very high flavoured dry cider, which, by connoisseurs, is thought unsurpassed in flavour by any other, and retains its soundness a long time. It is a prodigious bearer, and the tree is very hardy, though of small size.

Fruit quite small, about an inch and a half in diameter, nearly round. Skin dull red, dotted with white specks, and obscurely

streaked with greenish-yellow. Stalk long and slender. Flesh fibrous, with an acid, rough, and astringent flavour, and when ground, runs clear and limpid from the press, and ferments very slowly. The Virginia Crab is often mixed with rich pulpy apples, to which it imparts a good deal of its fine quality.

The Roane's White Crab is a sub-variety of the foregoing, about the same size, with a yellow skin. It makes a rich, strong, bright liquor, and keeps throughout the summer, in a well-bunged cask, perfectly sweet.

Hagloe Crab. Lind.

This is a celebrated old English cider fruit, scarcely known in this country. Lindley says, when planted on a dry soil, with a calcareous bottom, it produces a most excellent cider. The specific gravity of its juice is 1081.

"Fruit small, ill-shaped, something between an apple and a crab, more long than broad, wide at the base and narrow at the crown, which is a little sunk, and the eye flat. Skin pale yellow, a little marbled in different directions with a russet-grey, and having a few red specks or streaks on the sunny side. Eye flat, with a spreading calyx. Stalk short."

Red Streak. Coxe.

Herefordshire Red Streak,
Scudamore's Crab, } *of English gardens.*

A capital English cider apple, which thrives admirably in this country, and is very highly esteemed, as it makes a rich, high flavoured, strong liquor. It is a handsome grower, and a great bearer.

Fruit of medium size, roundish. Calyx small, set in a rather deep basin. Stalk rather slender and short. Skin richly streaked with red, with a few yellow streaks and spots. Flesh yellow, rich, firm, and dry.

Styre. Thomp.

Forest Styre. *Lind.* Styre. *Coxe.*

The Styre is a famous old English cider fruit, and Lindley remarks that Styre cider may be found in the neighbourhood of Chepstow, thirty or forty years old.

Fruit middle size, round, pale yellow, with an orange cheek. Stalk short. Flesh firm, of high flavour, and makes a high-coloured liquor. The tree thrives well here, and forms a very upright, broom-like head. October to January.

In addition to the foregoing, several of the table apples already described are esteemed for cider, as the Newtown Pippin,

Wine Apple, Winesap, &c., and some of the high-flavoured English varieties in the preceding pages are very highly valued for cider in Britain—the Golden Pippin, Golden Harvey, Downton, &c. The Fox Whelp is a very celebrated apple of this class, used to flavour and give strength to nearly all the choice cider of Herefordshire, which is not yet introduced here, to our knowledge. It is middle sized, ovate, dark red, with a rich, heavy juice of the specific gravity 1078. The Siberian Bitter Sweet is a variety of crab raised by Mr. Knight, and about twice the size of the Siberian Crab, small, roundish ovate, yellow; an immense bearer, and held in very high esteem in England, for mixing with other cider apples, to impart richness.

CLASS V.

APPLES FOR ORNAMENT OR PRESERVING.

Siberian Crab. *Arb. Brit.*

Malus baccata. *Lind.* Pyrus baccata. *Arb. Brit.*

The common Siberian Crab is a beautiful little fruit, which is produced in rich clusters on the branches, and, at a distance, resembles large and handsome cherries. It is highly esteemed for preserving, and almost every large garden in the middle States contains a tree of this variety. It forms a vigorous, neat tree, of rather small size, and its blossoms, which are white, are produced in beautiful profusion in spring, and a large crop of fruit regularly follows.

Fruit about three fourths of an inch in diameter, very regularly formed, and rather flat. Skin smooth, of a lively scarlet, over a clear yellow ground, and when the bloom is rubbed off, is highly polished. Stalk nearly two inches long, and very slender. Calyx small, slightly sunk. Fit for preserving in September and October.

Large Red Siberian Crab.

Pyrus Pruifolia. *Arb. Brit.*

This variety is about twice the size of the foregoing, roundish-ovate, with a large and prominent calyx, and a pale red and yellow skin. It forms a larger tree, with rather coarser foliage than the common variety, and is esteemed for the same purposes. September and October.

Yellow Siberian Crab.

Amber Crab.

This scarcely differs from the common Siberian Crab, except

in its fruit, which is rather larger, and of a fine amber or golden yellow. Both this and the red are beautiful ornaments to the fruit garden in summer and autumn, and are equally esteemed for preserves and jellies. September.

Quite a number of seedlings have been raised from the Siberian Crab in this country, mostly of larger size—some by Mr. Manning, of Salem, and several by Mr. Thompson, of Catskill, scarcely deserving of special notice here.

Double Flowering Chinese Crab.

Pyrus Spectabilis. *Arb. Brit.*
Malus Spectabilis. *N. Duh.*
Double flowering Apple.

This very beautiful crab tree from China, which produces a small green fruit, of no value, is highly admired for its showy blossoms. These are large, tipped with deep red in the bud, but when open, are of a pale rose colour, semi-double, large, and produced in fine clusters. It is an exceedingly ornamental, small tree, growing from ten to twenty feet in height.

Double White Siberian Crab.

Baccata fructa flore pleno alba.

Fruit three fourths of an inch high, and one and a quarter broad, roundish, irregular, swollen on one side. Stalk one third of an inch long, obliquely inserted at the surface, eye large, even with the surface, closed. Colour red carmine on the sunny side, green on the shaded side, covered with a white bloom. Flowers large double white, very ornamental. (Leroy in Hort.)

Currant Crab.

Pomme Groseille.

The fruits of this kind of apple are of the size of currants, and are borne like them in clusters; they are round, a little compressed towards the ends. Stem about half an inch long. Colour red, slightly striped with deep red; it is ornamental in its flowers as well as its fruits. (Leroy in Hort.)

Purple Siberian Crab.

Baccata fructa purpurea or *rosea.*

Fruit about one inch high, and one and a half broad, oblate. Stem two thirds of an inch long, slender, inserted in a large cavity. Colour beautiful reddish purple on the sunny side, covered with a bloom, the shaded side less brilliant, and the whole surface speckled with some grey dots. Flesh, like all the crabs, coarse and harsh. (Leroy in Hort.)

Striped Siberian Crab.

Baccata fructa striata.

Fruit one and a third of an inch high, and one and a half broad, roundish. Stem half an inch long, inserted in a large cavity. Colour rose yellowish, red striped all over, carmine on the sunny side, more yellow towards the stem, covered with a fine white bloom; this is an extremely ornamental tree. (Leroy in Hort.)

Select List of Apples, ripening in succession, to suit the Middle and Southern portions of the Eastern States.

Early Harvest.
Red Astrachan.
Early Strawberry.
Summer Rose.
William's Favourite.
Primate.
American Summer Pearmain.
Garden Royal.
Jefferis.
Porter.
Jersey Sweet.
Large Yellow Bough.
Gravenstein.
Maiden's Blush.
Autumn Sweet Bough.
Fall Pippin.
Mother.
Smokehouse.
Rambo.
Esopus Spitzenburgh.
Vandevere of N. Y.
Jonathan.
Melon.
Yellow Bellflower.
Domine.
American Golden Russet.
Cagswell.
Peck's Pleasant.
Wagener.
Rhode Island Greening.
King of Tompkins Co.
Swaar.
Baldwin.
Lady Apple.
Ladies' Sweet.
Red Canada.
Newtown Pippin.
Boston Russet.
Northern Spy.
Wine Sap.

Selection of Apples for the North.

Red Astrachan.
Early Sweet Bough.
Sops of Wine or Bell's Early.
Golden Sweet.
William's Favourite.
Porter.
Dutchess of Oldenburgh.
Keswick Codlin.
Hawthornden.
Gravenstein.
Mother.
Tolman Sweet.
Fameuse.
Pomme Gris.
Canada Reinette.
Yellow Bellflower.
Golden Ball.
St. Lawrence.
Jewett's fine Red.
Rhode Island Greening.
Baldwin.
Winthrop Greening.
Danvers Winter Sweet.
Ribstone Pippin.
Roxbury Russet.

Selection of Apples for the Western States.

The following list was made up from the contributions of

twenty different cultivators from the States of Ohio, Michigan, Illinois, Indiana and eastern Iowa.

Early Harvest.	Domine.
Carolina Red June.	Swaar.
Red Astrachan.	Westfield Seek-no-further.
Large Sweet Bough.	Ortley or White Bellflower.
American Summer Pearmain.	Broadwell.
Sweet June.	Vandevere of N. Y., or Newtown Spitzenburgh.
Summer Queen.	
Maiden's Blush.	Yellow Bellflower.
Keswick Codlin.	White Pippin.
Fall Wine.	American Golden Russet.
Rambo.	Herefordshire Pearmain.
Belmont.	White Winter Pearmain.
Fall Pippin.	Wine Sap.
Fameuse.	Rawle's Janet.
Jonathan.	Red Canada.
Tolman Sweet.	Willow Twig.

Newtown Pippin does not generally succeed at the West, yet in some localities they are very fine. Rhode Island Greening and Baldwin generally fail in many sections, while in others they are excellent.

A Selection of Apples for the South and South-west.

Early Harvest.	Nickajack.
Carolina Juice.	Maverack's Sweet.
Red Astrachan.	Batchelor or King.
Gravenstein.	Buff.
American Summer Pearmain.	Shockley.
Julian.	Ben Davis.
Mangum.	Hall.
Fall Pippin.	Mallecarle.
Maiden's Blush.	Horse.
Summer Rose.	Bonum.
Porter.	Large Striped Pearmain.
Rambo.	Rawle's Janet.
Large Early Bough.	Disharoon.
Fall Queen or Ladies' Favourite.	Meigs.
Oconee Greening.	Cullasaga.
	Camack's Sweet.

CHAPTER IX.

THE ALMOND.

Amygdalus communis, Dec. *Rosaceæ*, of botanists. *Amandier*, of the French; *Mandelbaum*, German; *Mandorlo*, Italian; *Almendro*, Spanish.

THE Almond tree, which is a native of the north of Africa,

and the mountains of Asia, has long been cultivated, and is mentioned in scripture as one of the charms of the fertile land of Canaan. It so strongly resembles the peach tree that it is difficult to distinguish it by the leaves and wood only; indeed, several botanists are of opinion, from experiments made in raising the almond from seed, that this tree and the peach are originally the same species, and that the rich and luscious peach is the effect of accidental variation, produced by culture on the almond. The chief distinction between the two in our gardens lies in the fruit, which, in the almond, consists of little more than a stone covered with a thick, dry, woolly skin, while the peach has in addition a rich and luscious flesh. The blossoms of the almond resemble those of the peach, but are larger; they are produced in great profusion, early in the season, before the leaves, and are very ornamental.

Uses. The kernel of the sweet almond is highly esteemed as an article of food, and is largely used as an ingredient in confectionery, cookery, and perfumery. It is raised in great quantities in the south of Europe, especially in Portugal, and is an important article of commerce. The bitter almond is used in cookery and confectionery, and in medicine; it furnishes the prussic acid of the shops, one of the most powerful of poisons. From both species an oil is also obtained.

In France the almond is preferred as a stock on which to bud and graft the peach, which in a very dry climate or chalky soil, it is found, renders the latter more healthy and fruitful than its own bottom. The sweet hard-shelled variety (*Douce à coque dure,*) is preferred for stocks by French nurserymen.

Cultivation. The almond thrives best in a warm dry soil, and its general cultivation in this country is precisely like that of the peach. The sweet almond is the only variety considered of value here, and it is usually propagated by budding it on Plum stock, or on the bitter almond seedlings. It is rather more hardy at the north when budded on the former, and as the buds of the sweet almond are rather slender and small, the plum stocks to be budded should be thrifty seedlings not more than a fourth of an inch in diameter at the place where the bud is inserted.

The Common Almond, the Hard-Shell Sweet Almond, and the Bitter Almond, are hardy in the latitude of New York, and will bear tolerable crops without care. The Soft-Shell Sweet Almond, or Ladies' Almond, will not thrive well in the open garden as a standard, north of Philadelphia; but they succeed well trained to a wall or on espalier rails in a warm situation; the branches being slightly protected in winter.

There is no apparent reason why the culture of the almond should not be pursued to a profitable extent in the warm and favourable climate of some of the southern states. Especially

in the valley of the Ohio and Tennessee it would be likely to succeed admirably.

Common Almond. Thomp. Lind.

A. c. dulcis. *Dec.*
Amandier à Petit Fruit, } *O. Duh.*
——— commun, }
Amande commune.
Common Sweet.

This is the common Sweet Almond of France and the south of Europe, and is one of the most hardy and productive sorts here. Nuts hard, smooth, about an inch and a quarter long, compressed and pointed, of an agreeable flavour, but inferior to the following. Flowers expand before the leaves. Ripens last of September.

The Long Hard-Shell Almond.

Amandier à gros fruit. *O. Duh.*
———dur. *Nois.*

A variety with handsome large, pale rose coloured flowers, opening before the leaves, and large and long fruit a third longer than other varieties. The stone is about as large as the soft-shell variety, but the kernel is larger and plumper. This is a good hardy sort, and it is very ornamental when in blossom. Ripens about the last of September.

Soft-Shell Sweet Almond. Lind.

Doux à coque tendre. } *Thomp.*
Sultan à coque tendre. }
Amandier à coque tendre. *O. Duh.*
——— des Dames. *N. Duh, Poit.*
Amandier des Dames, } *Noisette.*
Ou Amande Princesse. }
Ladies' Thin Shell.

The Soft-Shell or Ladies' Almond, is the finest of all the almonds. It is the very variety common in the shops of the confectioners, with a shell so thin as to be easily crushed between the fingers, and the kernel of which is so highly esteemed at the dessert. It ripens early in the season, and is also highly esteemed in a young or fresh state, being served on the table for this purpose about the middle of July in Paris. The blossoms of this variety expand at the same time with the leaves, and are more deeply tinged with red than the foregoing. Several varieties are made of this in France, but they are (as quoted above) all essentially the same.

Fruit two inches long, oval, compressed. The nut is more

than an inch long, oval, pointed, one-sided, with a light coloured, porous, very tender shell. The kernel sweet and rich.

On the plum stock, in a favourable aspect, this almond succeeds, with a little care, in the middle States.

Sultana Sweet Almond. Lind.

Amande Sultane. *O. Duh. Nois.*
Amandier Sultane. Sultan. *Thomp.**

A tender shelled almond of excellent quality, with smaller fruit and narrower kernel than the Soft-Shell Almond, but of equally excellent flavour, and which is preferred by many. It is thought, by Poiteau, to be scarcely different from the Soft-Shell or Ladies' Almond.

Pistachia Sweet Almond. Lind.

Amande Pistache. *O. Duh. Nois.*
Amandier Pistache.

A variety of almond with a very small pointed fruit, about the size and shape of that of a Pistachia, enclosing a kernel of a delicate sweet flavour. The shell not quite so soft as the Soft-Shell Almond. This is scarcely known yet in this country, but is worth further trial at the South.

Peach Almond.

Pecher, Peach Almond, } *Thomp.*
Amandier-Pecher. *N. Duh. Nois. Poit.*

A rather indifferent variety, nearly sweet, but often slightly bitter. It is a true cross between the peach and the almond, and in its leaves, flowers, and stone strongly resembles the peach; the fruit is also pulpy and of tolerable flavour, like an indifferent peach. The nut scarcely ever ripens well as far north as this.

Bitter Almond. Thomp. Lind.

The Bitter Almond has large pale blossoms, differing little from the common almond, except in the kernel, which is bitter. There are two varieties, one with a hard, and the other with a brittle shell. The fruit, which is produced abundantly, ripens in September. The leaves are longer and of a darker green than those of most of the sweet fruited varieties.

* We cannot follow Mr. Thompson in his nomenclature of Almonds, as he (or his printer) mistakes the meaning of the French terms; Amande Sultane of all the French authors should be translated Sultana, not Sultan.

Ornamental Varieties. The *Dwarf Double Flowering Almond*, (*Amygdalus pumila.* Lin. *Prunus sinensis*, of some,) is a beautiful, well-known, low shrub, extremely ornamental in spring, being covered with a profusion of small pink blossoms, very double.

The Large Double Flowering Almond (*A. à grand fleur, N. Duh.*) (*A. communis pleno,*) is a beautiful French variety, with large, nearly white flowers, two inches in diameter. It also bears a good, small, hard-shell Almond.

CHAPTER X.

THE APRICOT.

Armeniaca vulgaris, Dec. *Rosaceæ*, of botanists.
Abricotier, of the French; *Aprikosenbaum*, German; *Albercoco*, Italian; *Albaricoque*, Spanish.

The Apricot is one of the most beautiful of stone fruit trees, easily known by its glossy *heart-shaped* foliage, large white blossoms, and smooth-skinned, golden or ruddy fruit. In the fruit garden it is a highly attractive object in early spring, as its charming flowers are the first to expand. It forms a fine spreading tree of about twenty feet in height, and is hardy enough to bear as an open standard south of the 42° of latitude in this country.

The native countries of this tree are Armenia, Arabia, and the higher regions of central Asia. It is largely cultivated in China and Japan; and, indeed, according to the accounts of Grosier the mountains west of Pekin are covered with a natural growth of apricots. The names by which it is known in various European countries all seem to be corruptions of the original Arabic term *Berkoche.*

Uses. A very handsome and delicious dessert fruit, only inferiour to the peach, ripening about midsummer, after cherries, and before plums, at a season when it is peculiarly acceptable. For preserving in sugar or brandy, for jellies or pastries, it is highly esteemed, and, where it is abundant, an admirable liquor is made from the fruit; and it is also dried for winter use. In some parts of Germany, the free bearing sorts—the Turkey, Orange, and Breda—are largely cultivated for this purpose.

Cultivation. This tree is almost always budded on the plum stock (on which in July it takes readily,) as it is found more hardy and durable than upon its own root.—Many American nurserymen bud the apricot on the peach, but the trees, so produced, are of a very inferiour quality—short lived, more

liable to diseases, and the fruit of a second rate flavour. Budded on the plum they are well adapted to strong soils, in which they always hold their fruit better than in light sandy soils.

Apricots generally grow very thriftily, and soon make fine heads, and produce an abundance of blossoms and young fruit; but the crop of the latter frequently falls off when half grown, from being stung by the Plum-weevil or curculio, to which the smooth skin of this fruit seems highly attractive. To remedy this, the same course must be pursued as is directed for the plum. Seedling apricots are usually more hardy and productive here, than the finer grafted sorts.

This is a favourite tree for training on walls or espaliers, and, in town gardens especially, we often see it trained against the sides of brick houses, and yielding most abundantly. As it bears its fruit in the same way as the peach, and requires the same management, we must refer our readers to the latter head for direction as to pruning and training. As the apricot, however, expands its blossoms very early, it should not be placed on an east wall, or in a situation where it is too much exposed to the full morning sun.

Diseases. When budded on the Plum, this tree is but little liable to diseases, and may be considered a hardy fruit tree. In order to render it fruitful, and keep it for a long time in a productive state, we cannot too strongly urge the advantages of the *shortening-in* system of pruning recommended for the peach.

Albergier. Thomp. N. Duh. Nois.

Alberge. *O. Duh. Bon. Jard.*

This is a variety very common in the interiour of France, where it is constantly reproduced with but little variation from the seed—*Alberge* being the name of the apricot in some of the provinces. It is a free grower, and bears well, but is neither so large nor fine as many other varieties. The leaves are small, and often have little wing-like ears at the base. The Albergiers are much used for stocks in France.

Fruit small, roundish, deep yellow. Flesh reddish, firm, with a brisk, vinous flavour. Stone compressed; kernel bitter. Esteemed for preserving. There are several varieties of this not yet introduced into the United States, the finest of which are the *Albergier de Tours*, and *A. de Montgamet.* Ripe middle of August.

Breda. Thomp. Lind. P. Mag.

De Hollande,
Amande Aveline,
Ananas,
Persique,
Hasselnussmandel.
} *ac. to Thomp.*

This is a very excellent small Apricot, said to be originally from

Africa, which bears well with common culture, and deserves a place in all gardens, as it is not only a high flavoured dessert sort, but it makes one of the richest preserves. The blossom buds are tinged with deep red before they expand.

Fruit rather small, about an inch and a half in diameter, roundish, sometimes rather four sided. Suture well marked. Skin orange, becoming dark orange in the sun. Flesh deep orange, rich, high flavoured and rather juicy—separating freely from the stone. The kernel, which is sweet, is eaten in France, whence the name *Amande Aveline*. First of August.

Black. Thomp. Fors.

Amygdalus dasycarpa. *Dec.*
Angoumois? *O. Duh.?*
Violet.
Purple Apricot. *Lind.*
Noir.
Du Pape.

This remarkable little Apricot so strongly resembles a dark round Plum, that at a little distance it might easily be mistaken for one. (It was indeed called Prunus dasycarpa by the old botanists.) It is pretty good, and very hardy, and its unique appearance renders it sought after by amateurs. The tree has a rough, somewhat crooked trunk, and small, *oval* foliage.

Fruit about an inch and a half in diameter, round. Skin pale red in the shade, but dull reddish purple in the sun, covered with a slight down. Flesh pale red next the skin, yellow near the stone, adhering somewhat to the stone, juicy, with a pleasant, slight astringent flavour. Kernel sweet. August.

Brussels. Thomp. Lind. Miller.

The Brussels Apricot is not a fine fruit in this country, but it is a good bearer in light soils. Fruit of medium size, rather oval, and flattened on its side. Skin pale yellow, dotted with white in the shade, but often marked with a little russety brown in the sun. Suture deep next the stalk. Flesh yellow, rather firm, with a lively but not rich flavour. Kernel bitter. Middle of August. The Brussels of some collections is the *Breda*.

Burlington.

Raised by Mrs. Woolman, Burlington, New Jersey. Tree vigorous. Fruit medium to large, oblong, somewhat compressed at the sides with a distinct suture. Skin golden yellow, with numerous red spots and a ruddy tint on the side exposed to the sun. Flesh yellowish, sweet and fine. Middle of July to the first of August. (W. D. Brinckle in Pom.)

Early Golden.

Dubois' Early Golden.

Raised by Chas. Dubois, Fishkill Landing, N. Y. Tree vigor-

ous, with long, rather slender branches. Fruit small, roundish oval, with the suture well marked, and extends half-way round. Skin smooth, pale orange. Flesh yellow, moderately juicy and sweet, with a very good flavour—separates from the stone. Middle of July.

Hemskirke. Thomp. Lind. P. Mag.

A large and beautiful English variety, of the finest quality. It strongly resembles the Moorpark, from which it is known by its stone not being perforated like that variety. It also ripens a little earlier.

Fruit large, roundish, but considerably compressed or flattened on its sides. Skin orange, with a red cheek. Flesh bright orange, tender, rather more juicy and sprightly than the Moorpark, with a rich and luscious plum-like flavour. Stone rather small, and kernel bitter. End of July.

Lafayette.

Origin, City of New York. Tree remarkably vigorous. Fruit very large, oval. Skin light yellow, marbled with red next the sun. Flesh high flavoured and excellent. Ripens in August. (W. R. Prince's.)

Large Early. Thomp. Lind. P. Mag.

Gros Precoce,
De St. Jean,
De St. Jean Rouge,
Gros d'Alexandrie,
Gro Fruhe,
} *ac. to Thomp.* Precoce d'Esperin,
——— d'Hongrie.

A fine, large, early variety from France, of vigorous growth, and one of the best of the early sorts.

Fruit of medium size, rather oblong, and compressed. Suture deep. Skin slightly downy, pale orange in the shade, fine bright orange with a few ruddy spots in the sun. Flesh separating readily from the stone, orange-coloured, rich and juicy. Kernel bitter. Middle of July.

Moorpark. Thomp. Lind.

Anson's,
Dunmore,
Dunmore's Breda,
Sudlow's Moorpark,
Hunt's Moorpark,
} *ac. to Thomp.* Oldaker's Moorpark,
Walton Moorpark,
Temple's,
De Nancy,
} *ac. to Thomp.*

This fine variety is the most popular and widely disseminated in this country, except the Red Masculine. It has its name from Moorpark, the seat of Sir William Temple, in England,

where it was cultivated more than one hundred and forty years ago. It is only a moderate bearer here, and especially requires the shortening-in mode of pruning as recommended for the peach.

Fruit large, roundish, about two inches and a quarter in diameter each way, on a standard tree; rather larger on one side of the suture than the other. Skin orange in the shade, but deep orange or brownish red in the sun, marked with numerous dark specks and dots. Flesh quite firm, bright orange, parting free from the stone, quite juicy, with a rich and luscious flavour. Stone peculiarly *perforated* along the back, where a pin may be pushed through, nearly from one end to the other. Kernel bitter. Ripe early in August.

Musch-Musch. Thomp. Nois.

D'Alexandrie.

This delicious little Apricot takes its name from the city of Musch on the frontiers of Turkey in Asia; but it is also common about Alexandria, and in northern Egypt it is said to be raised in such abundance that the dried fruit is an article of commerce. The tree is rather delicate, and requires a sheltered position.

Fruit rather small, about an inch and a half in diameter, round. Skin deep yellow, with a little orange red on the sunny side. Flesh yellow, with a *transparent pulp*, tender, melting, and very sweet. Kernel sweet.

Orange. Thomp. Lind. Mill.

Early Orange. Persian.
Royal Orange. Royal Persian.
Royal George.

An Apricot of only tolerable quality for the dessert, but it is much esteemed by many for preserving; and it makes delicious tarts, even before the fruit begins to acquire colour.

Fruit of medium size, roundish, with a well marked suture, deeply hollowed near the stalk. Skin firm, orange, sometimes tinged with a ruddy tint in the sun. Flesh dark orange, moderately juicy, but often rather dry and insipid, (unless ripened in the house,) not separating entirely from the flesh. Stone small, roundish. Kernel sweet. Middle of July.

Peach. Thomp. Fors. Lind.

Anson's Imperial. Royal Peach.
Pêche. Abricot Pêche. *N. Duh. Poit.*
De Nancy. *O. Duh.* Du Luxembourg.
Pêche Grosse. Wurtemburg.
Pfirsiche.

The Peach Apricot, originally from Piedmont, has long been

considered the finest variety; and it is with us the largest and most excellent sort cultivated—being often as large as a Peach, of medium size, handsome, and of delicious flavour. It very strongly resembles the Moorpark, but the two are readily distinguished by the eye when standing near each other, and the fruit of the Peach is rather larger and finer, and a few days earlier.

Fruit of the largest size, about two and a half inches in diameter, roundish, rather flattened, and somewhat compressed on its sides, with a well marked suture. Skin yellow in the shade, but deep orange, mottled with dark brown, on the sunny side. Flesh of a fine yellow saffron colour, juicy, rich, and high flavoured. Stone with the same pervious passage as the Moorpark, and with a bitter kernel.

Roman. Thomp. Lind.

Abricot Commun. *O. Duh.* Germine.
Grosse Germine. Transparent.

This is with us one of the largest growing and hardiest Apricot trees, and produces good crops every year in cold or unfavourable situations, where none of the other sorts, except the Masculine, succeed. It is, therefore, though inferiour in flavour, a valuable sort for northern situations. The blossoms will bear quite a severe frost without injury.

Fruit middle sized, oblong, with the sides slightly compressed, with but little or no suture. Skin entirely pale yellow; or very rarely dotted with a few red spots on one side. Flesh dull yellow, soft, rather dry. When ripened by keeping a few days in the house, the flavour is tolerably good. Stone oblong, with a bitter kernel. Ripe the last of July and first of August.

There is a Blotched leaved Roman, (*commun à feuilles panachés*, of the French,) precisely like the foregoing in all respects, except the white or yellow stain in the leaf—but it is quite distinct from the blotched leaved Turkey, cultivated here.

Royal. Thomp. Nois. P. Mag.

A fine large French variety, raised a few years since at the Royal Luxembourg gardens. It is nearly as large as the Moorpark, but with larger leaves borne on long footstalks, and without the pervious stone of that sort. It is quite as high flavoured, and ripens a week or ten days earlier.

Fruit roundish, large, oval, slightly compressed. Skin dull yellow, with an orange cheek, very faintly tinged with red, and a shallow suture. Flesh pale orange, firm and juicy, with a rich vinous flavour. Ripe the latter end of July.

Red Masculine. Thomp. Lind.

Early Masculine. Apricot Precoce, } *O. Duh.*
Brown Masculine. Apricot hâtif Musquée. }
Abricotier. Abricotier hatif. *N. Duh.*
Frühe Muscateher.

A small early sort, hardy, very productive, of tolerable flavour, but not rich, growth upright, slender.

Fruit small and nearly round, scarcely an inch and a half in diameter, with a well marked suture on one side. Skin bright yellow, tinged with deep orange and spotted with dark red on the sunny side. Flesh yellow, juicy, with a slightly musky, pleasant flavour. Stone thick, obtuse at the ends. Flowers smaller than in most other sorts. Kernel bitter. Ripe about the 12th of July.

Ringold.

Raised by Mr. Commack, Athens, Ga.

Fruit large, roundish, a little oblong, suture slight. Skin light orange, darker in the sun, where it is beautifully dotted with carmine. Flesh deep yellow, juicy and excellent. Ripens just after the orange, hardy and productive. (Wm. N. White, MS.)

Shipley's. Thomp.

Blenheim. Shipley's Large.

A very good early variety, of small or medium size, of vigor ous but rather slender growth.

Fruit medium, oval, orange, with a deep yellow, juicy, and tolerably rich flesh. Stone roundish, impervious, with a bitter ker nel. Ripens here about the 25th of July.

Texas.

Originated with Dr. M. A. Ward, Athens, Ga.

Fruit small, round, colour dark maroon, darker in the sun. Suture slight, a mere line. Flesh juicy and pleasant, except at the stone, where it is astringent. Adheres to the stone. (W. N. White, MS.)

Turkey. Thomp. P. Mag. Lind.

Large Turkey. De Nancy, *(of some.)*

The Turkey Apricot is a fine old variety, which is seldom seen in our gardens, the sort generally sold under this name being the Roman. It is quite a late sort, ripening after the Moorpark, from which it is easily known by its impervious stone, and sweet kernel.

Fruit of middle size, nearly round, not compressed. Skin fine deep yellow in the shade, mottled with brownish orange in the sun. Flesh pale yellow, firm, quite juicy, with a flavour in which there is an excellent mingling of sweet and acid. Kernel nearly as sweet as that of an almond, which, as well as the form and colour, distinguishes this sort from the Roman. Ripe the middle of August.

The BLOTCHED LEAVED TURKEY, or Gold Blotched, (*Abricot maculé,*) is a sub-variety, very well known here, resembling the common Turkey in all respects, except that it has in the centre of each leaf a large yellowish spot. It is a thrifty tree and bears delicious fruit. Ours is not identical with the Turkey, as the last edition of the L. H. S.'s Catalogue arranges it, but is a globular fruit, and a true variation of the Turkey.

WHITE MASCULINE. Thomp. Lind. Fors.

White Apricot.
Abricot Blanc. *O. Duh. Nois.*
Abricotier Blanc. *N. Duh.*
Early White Masculine.
Blanc, } *ac. to*
White Algiers ? } *Thomp*

This scarcely differs from the Red Masculine before described, except in colour. It is four or five days later.

Fruit small and roundish. Skin nearly white, rarely with a little reddish brown on one side. Flesh white, delicate, a little fibrous, adheres a little to the stone, and has a delicate, pleasant juice. Kernel bitter.

The Alsace, St. Ambrosia, Kaisha, Tardive d'Orleans and 'Viard are new foreign varieties of reputed excellence, but we have not seen the fruit.

Curious or ornamental varieties. The BRIANCON APRICOT, (*A. brigantiaca*, Dec.) a very distinct species, so much resembling a plum as to be called the Briancon Plum by many authors (*Prune de Briançon,* Poit.), is a small irregular tree or shrub, ten or twelve feet high, a native of the Alps. It bears a great abundance of small round yellow plum-like fruit in clusters, which are scarcely eatable; but in France and Piedmont the kernels of this variety make the "huile de marmotte," which is worth double the price of the olive oil.

The DOUBLE FLOWERING APRICOT is a pretty ornamental tree, yet rare with us.

Selection of Apricots for a small garden. Large Early, Breda, Peach, Moorpark.

Selection for a cold or northern climate. Red Masculine, Roman, Breda.

CHAPTER XI.

THE BERBERRY.

*Barberis vulgaris.** L. *Berberaceæ*, of botanists.
Epine-vinette, of the French; *Berberitzen*, German; *Berbero*, Italian; *Berberis*, Spanish.

The Berberry (or barberry) is a common prickly shrub, from eight to ten feet high, which grows wild in both hemispheres, and is particularly abundant in many parts of New England. The flowers, the roots, and the inner wood are of the brightest yellow colour, and the small crimson fruit is borne in clusters. It is a popular but fallacious notion, entertained both here and in England, that the vicinity of this plant, in any quantity, to grain fields, causes the rust.

The barberry is too acid to eat, but it makes an agreeable preserve and jelly, and an ornamental pickle for garnishing some dishes. From the seedless sort is made in Rouen a celebrated sweetmeat, *confiture d'épine-vinette*. The inner bark is used in France for dyeing silk and cotton a bright yellow.

Culture. The culture is of the easiest description. A rich light soil gives the largest fruit. It is easily propagated by seed, layers, or suckers. When fine fruit of the barberry is desired it should be kept trained to a single stem—as the suckers which it is liable to produce, frequently render it barren, or make the fruit small.

Common Red.

This is too well known to need description. In good soils it grows twelve or fifteen feet high, and its numerous clusters of bright, oval berries, are very ornamental in autumn. There is a Large Red variety of this, which is only a variation produced by cultivation in rich soil. There are also varieties of this in Europe with pale yellow, white, and purple fruit, which are not yet introduced into this country, and which scarcely differ in any other respect than the colour. Finally, there is a so-called *sweet* variety of the common Berberry from Austria (*B. v. dulcis*), but it is scarcely less acid than the common.

* Or B. Canadensis—they are scarcely distinct—ours has rather the most fleshy berry.

STONELESS.

B. v. Asperma. Seedless.
Vinetier sans noyeau.

The fruit of this, which is only a variety of our common barberry, is without seeds. But it does not appear to be a permanent variety, as the plants frequently do produce berries with seeds; and it is stated in the New Duhamel that, in order to guard against this, the sort must be propagated by layers or cuttings, as the suckers always give the common sort. It is considered the best for preserving.

BLACK SWEET MAGELLAN. Loudon.

Berberis dulcis. *D. Don.*
B. rotundifolia.

A new evergreen sort from the Straits of Magellan, South America. It is very rare, and has not yet fruited in this country, but it is likely to prove hardy. Loudon, in the Suburban Gardener, says it bears round black berries, about the size of those of the black currant, which are used in its native country for pies and tarts, both green and ripe. It has ripened fruit in Edinburgh, in the nursery of Mr. Cunningham, who describes it as large and excellent.

NEPAL.

Berberis aristata.

This is a new variety from Nepal, India. We have cultivated it three or four years, and find it tolerably hardy, but, though it has produced flowers, it has yet given no fruit. It is said to yield "purple fruit, covered with fine bloom, which in India are dried in the sun like raisins, and used like them at the dessert."

The MAHONIAS, or *Holly leaved Berberries*, from Oregon, are handsome low evergreen ornamental shrubs, with large deep green prickly leaves and yellow flowers, but the fruit is of no value.

CHAPTER XII.

THE CHERRY.

Cerasus sylvestris, and *C. vulgaris,* Arb. Brit. *Rosaceæ,* of botanists. *Cerisier,* of the French; *Kirschenbaum,* German; *Ciriego,* Italian; *Cerezo,* Spanish.

THE cherry is a fine, luxuriant fruit tree, with smooth, light

coloured bark, and generally of rapid growth. The varieties of the black and heart-shaped cherries are always vigorous, and form fine large spreading heads, forty or fifty feet in height; but those of the acid or red cherry are of lower, more bushy and tardy growth. In the spring the cherry tree is profusely covered with clusters of snow-white blossoms, and earlier in summer than upon any other tree, these are followed by abundant crops of juicy, sweet, or acid fruit hanging upon long stalks, and enclosing a smooth stone.

The cherry comes originally from Asia, and the Roman general, Lucullus, after a victorious expedition into Pontus, has the reputation of having brought it to Italy, from *Cerasus*, a town in that province, in the year 69, B. C. According to Pliny, the Romans, 100 years after this, had eight varieties in cultivation, and they were soon afterwards carried to all parts of Europe. The seeds of the cultivated cherry were brought to this country very early after its settlement, both from England and Holland.

Uses. As a pleasant and refreshing dessert fruit, the cherry is everywhere highly esteemed. The early season at which it ripens, its juiciness, delicacy and richness, render it always acceptable. While the large and fleshy varieties are exceedingly sweet and luscious, others which are more tender, and more or less acid, are very valuable for pies, tarts, and various kinds of cookery. The fruit of the Kentish or Early Richmond is excellent when stoned and dried, and the Mazzard, and our wild Virginia cherries, are used to give a flavour to brandy.

The celebrated German *Kirschwasser* is made by distilling the liquor of the common black mazzard or gean, (in which the stones are ground and broken, and fermented with the pulp,) and the delicious *Ratafia* cordial of Grenoble, is also made from this fruit. *Maraschino*, the most celebrated liqueur of Italy, is distilled from a small gean or mazzard, with which, in fermenting, honey, and the leaves and kernels of the fruit are mixed.

The gum of the cherry is nearly identical with gum arabic, and there are some marvellous stories told of its nutritive properties. The wood of the cherry is hard and durable, and is therefore valuable for many purposes, but the best wood is afforded by our common wild or Virginia cherry, which is a very good substitute for mahogany, taking a fine polish.

The larger growing sorts of black cherry are the finest of all fruit trees for shade, and are, therefore, generally chosen by farmers, who are always desirous of combining the useful and the ornamental. Indeed, the cherry, from its symmetrical form, its rapid growth, its fine shade, and beautiful blossoms, is exceedingly well suited for a roadside tree in agricultural districts. We wish we could induce the planting of avenues of this and

other fine growing fruit trees in our country neighbourhoods, as is the beautiful custom in Germany, affording ornament and a grateful shade and refreshment to the traveller, at the same moment. Mr. Loudon, in his Arboretum, gives the following account of the cherry avenues in Germany, which we gladly lay before our readers.

"On the continent, and more especially in Germany and Switzerland, the cherry is much used as a roadside tree; particularly in the northern parts of Germany, where the apple and the pear will not thrive. In some countries the road passes for many miles together through an avenue of cherry trees. In Moravia, the road from Brunn to Olmutz passes through such an avenue, extending upwards of sixty miles in length; and, in the autumn of 1828, we travelled for several days through almost one continuous avenue of cherry trees, from Strasburg by a circuitous route to Munich. These avenues, in Germany, are planted by the desire of the respective governments, not only for shading the traveller, but in order that the poor pedestrian may obtain refreshment on his journey. All persons are allowed to partake of the cherries, on condition of not injuring the trees; but the main crop of the cherries, when ripe, is gathered by the respective proprietors of the land on which it grows; and when these are anxious to preserve the fruit of any particular tree, it is, as it were, tabooed; that is a wisp of straw is tied in a conspicuous part to one of the branches, as vines by the roadsides in France, when the grapes are ripe, are protected by sprinkling a plant here and there with a mixture of lime and water, which marks the leaves with conspicuous white blotches. Every one who has travelled on the Continent in the fruit season, must have observed the respect that is paid to these appropriating marks; and there is something highly gratifying in this, and in the humane feeling displayed by the princes of the different countries, in causing the trees to be planted. It would indeed be lamentable if kind treatment did not produce a corresponding return."

Soil and Situation. A *dry* soil for the cherry is the universal maxim, and although it is so hardy a tree that it will thrive in a great variety of soils, yet a good, sandy, or gravelly loam is its favourite place. It will indeed grow in much thinner and dryer soils than most other fruit trees, but to obtain the finest fruit a deep and mellow soil, of good quality, is desirable. When it is forced to grow in wet places, or where the roots are constantly damp, it soon decays, and is very short-lived. And we have seen this tree when forced into too luxuriant a growth in our over-rich western soils, become so gross in its wood as to bear little or no fruit, and split open in its trunk, and soon perish. It is a very hardy tree, and will bear a great variety of exposures without injury. In deep warm valleys, liable to spring

frosts, it is, however, well to plant it on the north sides of hills, in order to retard it in the spring.

Propagation. The finer sorts are nearly always propagated by budding on seedlings of the common black mazzard, which is a very common kind, producing a great abundance of fruit, and very healthy, free growing stocks. To raise these stocks, the cherries should be gathered when fully ripe, and allowed to lie two or three days together, so that they may be partially or wholly freed from the pulp by washing them in water. They should then be planted immediately in drills in the seed plot, covering them about an inch deep. They will then vegetate in the following spring, and in good soil will be fit for planting out in the nursery rows in the autumn or following spring at a distance of ten or twelve inches apart in the row. Many persons preserve their cherry stones in sand, either in the cellar or in the open air until spring, but we have found this a more precarious mode; the cherry being one of the most delicate of seeds when it commences to vegetate, and its vitality is frequently destroyed by leaving it in the sand twenty-four hours too long, or after it has commenced sprouting.

After planting in the nursery rows, the seedlings are generally fit for budding in the month of August following And in order not to have weak stocks overpowered by vigorous ones they should always be assorted before they are planted, placing those of the same size in rows together. Nearly all the cherries are grown with us as standards. The English nurserymen usually bud their standard cherries as high as they wish them to form heads, but we always prefer to bud them on quite young stocks, as near the ground as possible, as they then shoot up clean, straight, smooth stems, showing no clumsy joint when the bud and the stock are united. In good soils, the buds will frequently make shoots, six or eight feet high, the first season after the stock is headed back.

When dwarf trees are required, the *Morello* seedlings are used as stocks; or when very dwarf trees are wished the Perfumed Cherry, (Cerasus Mahàleb,) is employed; but as standards are almost universally preferred, these are seldom seen here. Dwarfs in the nursery must be headed back the second year, in order to form lateral shoots near the ground.

Cultivation. The cherry, as a standard tree, may be said to require little or no cultivation in the middle states, further than occasionally supplying old trees with a little manure to keep up their vigour, pruning out a dead or crossing branch, and washing the stem with soft soap should it become hard and bark bound. Pruning the cherry very little needs, and as it is always likely to produce gum (and this decay), it should be avoided, except when really required. It should then be done in *midsummer*, as that is the only season when the gum is not

more or less exuded. The cherry is not a very long-lived tree, but in favourable soil the finest varieties generally endure about thirty or forty years. Twenty feet apart for the strong, and eighteen feet for the slow growing kinds is the proper distance for this tree.

Training the Cherry is very little practised in the United States. The Heart and Bigarreau cherries are usually trained in the horizontal manner, explained in *page* 40. When the wall or espalier is once filled, as there directed, with lateral branches, it is only necessary to cut off, twice every season—in the month of May and July—all additional shoots to within an inch or so of the branch from which they grew. As the trees grow older, these fruit spurs will advance in length, but by cutting them out whenever they exceed four or five inches, new ones will be produced, and the tree will continue to keep its proper shape and yield excellent fruit. The Morello cherries, being weaker growing sorts, are trained in the fan manner, (*page* 38.)

Gathering the Fruit. This tender and juicy fruit is best when freshly gathered from the tree, and it should always be picked with the stalks attached. For the dessert, the flavour of many sorts in our climate is rendered more delicious by placing the fruit, for an hour or two previous, in an ice-house or refrigerator, and bringing them upon the table cool, with dew drops standing upon them.

Varieties. Since the first publication of this work was written, the number of varieties has greatly increased, so that no distinct line can now be drawn separating many of the Heart cherries (tender and half tender) from the firm fleshed or Bigarreau varieties, each class insensibly approaching and intermingling with the other. We have, therefore, made but one class of these, whose main characteristic is the large vigorous growth of the trees. The Duke and Morello cherries, also wanting a natural division, we make to constitute another class, and in these two have comprised all the cherries, each class being subdivided into three sections, according to quality of fruit.

CLASS I.

SECTION I.

Comprises those of best quality and that ripen in succession.

Belle d'Orleans.

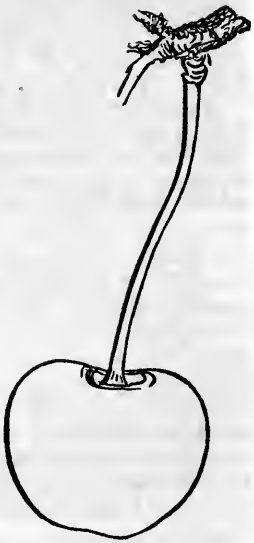
A new foreign variety, ripening just after the Early Purple Guigne. Tree a vigorous grower, spreading habit, productive, and a valuable addition to the early kinds.

Fruit above medium size, roundish heart-shaped. Colour

whitish yellow, half covered with pale red. Flesh tender, very juicy, sweet, and excellent. Ripens early in June.

Bigarreau. Thomp. Lind.

Graffion.
Yellow Spanish, (*of most American Gardens.*)
White Bigarreau, (*of Manning and Kenrick.*)
Amber, or Imperial. *Coxe.*
Turkey Bigarreau?
Bigarreau Royal,
Italian Heart,
Bigarreau Gros?
West's White Heart,
Bigarreau Tardif,
Groote Princess,
Hollandische Grosse,
Prinzessin Kirsche.
Cerise Ambrée. *N. Duh.*
} *ac. to Thomp.*



Bigarreau.

This noble fruit is unquestionably one of the largest, most beautiful and delicious of cherries. It was introduced into this country about the year 1800, by the late William Prince, of Flushing, and has been very extensively disseminated under the names of Yellow Spanish, Graffion, and Bigarreau. The tree is short but thrifty in growth, making strong lateral shoots, and forming a large and handsome head with spreading branches.

Fruit very large, and of a beautiful waxen appearance, regularly formed, obtuse heart-shaped, the base a good deal flattened. Stalk stout, nearly two inches long, inserted in a wide hollow. Skin pale whitish yellow on the shaded side, bordered with minute carmine dots and deepening into bright red finely marbled on the sunny side. Flesh pale yellow, quite firm, juicy, with a rich, sweet and delicious flavour if allowed fully to ripen. In perfection the last of June.

Bigarreau, Napoleon. Thomp.

Bigarreau Lauermann,
Lauermann's Kirsche,
Lauermann's Grosse Kirsche,
Lauermann's Herz Kirsche,
Holland Bigarreau?
} *ac. to Thomp.*

The Napoleon Bigarreau is one of the finest of the firm fleshed cherries—large, well flavoured, handsome, and productive. It was introduced into this country from Holland by the late Andrew Parmentier of Brooklyn.

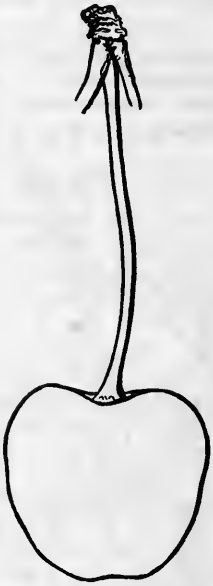
Fruit of the largest size, very regularly heart-shaped, a little

inclining to oblong. Skin pale yellow, becoming amber in the shade, richly dotted and spotted with very deep red, and with a fine marbled dark crimson cheek. Flesh very firm (almost too much so), juicy, with an excellent flavour. Stalk very stout, short, and set in a narrow cavity. Ripens a few days after the Bigarreau, about the first of July, and is a good and constant bearer. The fruit is not so obtuse as the Bigarreau.

Holland Bigarreau is so much like the above that we think it identical. Requires further trial to decide correctly.

BLACK TARTARIAN. Thomp. Lind. P. Mag.

Tartarian.
Fraser's Black Tartarian, } *Fors.*
Ronald's Large Black Heart. }
Black Circassian. *Hooker.*
Superb Circassian, }
Ronald's Large Black Heart, }
Ronald's Heart, } *ac. to Thomp.*
Fraser's Black Heart, }
Fraser's Black, }
Fraser's Tartarische, }
Schwarze Herz Kirsche. }
Black Russian, *of the English, but not of American gardens.*



Black Tartarian.

This superb fruit has already become a general favourite in all our gardens; and in size, flavour, and productiveness it has no superiour among black cherries. It is a Russian and West Asian variety, introduced into England about 1796, and brought thence to this country about thirty years ago. It is remarkable for its rapid, vigorous growth, large leaves, and the erect habit of its head. The fruit ripens about the middle of June, a few days after the Mayduke.

Fruit of the largest size, heart-shaped, (sometimes rather obtuse,) irregular and uneven on the surface. Skin glossy, bright purplish black. Flesh purplish, thick, (the stone being quite small,) half-tender, and juicy. Flesh very rich and delicious.

COE'S TRANSPARENT.

Fruit of medium size, remarkably round and regular in form. Skin thin, wax-like, of a very delicate pale amber, nearly covered with pale cornelian red in the sun, and marked with delicate pale spots or blotches, which give it a unique appearance. Stalk

set in a deep depression of moderate depth. Flesh very tender, melting and juicy, with a delicate but sweet and excellent flavour. Ripens just before Black Tartarian, growth vigorous and hardy, with a round and somewhat spreading head. Originated with Curtis Coe of Middletown, Conn. A productive and valuable addition to the amateur's collection, but rather too tender for carriage to market.

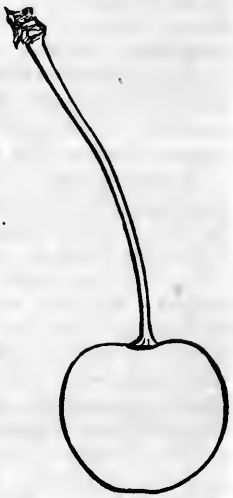
Delicate. Elliott.

Tree thrifty, rather spreading habit, productive, and its beautiful appearance and delicate flavour will make it a favourite for family use. Raised by Prof. Kirtland, Cleveland, Ohio.

Fruit rather above medium size, roundish, slightly depressed. Stem medium length, in a rather broad, deep cavity. Colour fine amber yellow in the shade, with a rich bright red on the sunny side. Flesh tender, juicy, sweet, with a delicate rich flavour. Ripens the last of June.

Downer's Late.

Downer. *Man.*
Downer's late Red.



This valuable late cherry was raised by Samuel Downer, Esq., an ardent cultivator, of Dorchester, near Boston. It is a very regular and great bearer, ripens about a week after the cherry season, and hangs for a considerable time on the tree. It is a delicious, melting fruit, and deserves a place in every garden.

Fruit of medium size, roundish, heart-shaped, inclining to oval. Skin very smooth, of a soft but lively red, mottled with a little amber in the shade. Stalk inserted with a very slight depression. Fruit borne thickly, in clusters. Flesh tender, melting, with a sweet and luscious flavour. Ripens from the 4th to the 10th of July.

Early Purple Guigne.

Early Purple Griotte. German Mayduke.

Origin unknown. An exceedingly early variety, ripening the last of May in favourable seasons. Tree hardy, free grower, spreading; somewhat pendant, and the leaves have longer petioles than most other sorts; a good bearer, and indispensable among the early varieties.

Fruit medium size, roundish, heart-shaped. Stem long, inserted in a rather shallow cavity; suture indistinct, skin smooth, dark red, becoming purple at maturity. Flesh purple, tender, juicy, with a rich and sweet flavour.

Has proved hardy at the West, and well adapted to their climate.

ELTON. Thomp. Lind. P. Mag.

BIGARREAU, COULEUR DE CHAIR.

Flesh-coloured Bigarreau.
Gros Bigarreau, Couleur de Chair, } *Noisette.*
Gros Bigarreau Blanc. }
Bigarreau à Gros Fruit Blanc.
Large Heart-shaped Bigarreau, *of Manning.*
Bigarreau de Rocmont.
Cœur de Pigeon.
Belle de Rocmont?

The Elton, a seedling raised in 1806, by the late President of the London Horticultural Society, is certainly one of the first of cherries in all respects. Its large size, early maturity, beautiful appearance, luscious flavour, and productiveness, render it universally esteemed. It is a cross-bred variety raised from the Bigarreau or Graffion with the White Heart for its male parent. The trees grow very vigorously, and are readily known, when in foliage, by the unusually dark red colour of the footstalks of the leaves.

Fruit large, rather pointed, heart shaped. Skin thin, shining, pale yellow on the shaded side, but with a cheek next the sun delicately mottled and streaked with bright red. Stalk long and slender. Flesh somewhat firm at first, but becoming nearly tender, juicy, with a very rich and luscious flavour, not surpassed by any large cherry known. Ripens about the middle of June, or directly after the Mayduke.

Elton.

GOVERNOR WOOD. Elliott.

Raised by Professor Kirtland, Cleveland, Ohio, and is probably one of the best of all his seedlings. It deserves a place in every good collection. Tree vigorous, forming a round regular head, very productive.

Fruit large, roundish, heart-shaped. Skin light yellow, shaded and marbled with bright red. Suture half round. Stem an

inch and a half long, in a broad cavity. Flesh nearly tender, juicy, sweet, rich and delicious. Ripe about the middle of June.

Great Bigarreau?

Large Red Prool?

The true name of this splendid cherry is not yet fully known. Wm. R. Prince, Esq., of Flushing says it is the same as he imported under the name of Large Red Prool, and from specimens received from him, they appear identical, and may prove so. Tree very vigorous, with a rather leaning habit while young, but forms a beautiful head when more advanced. Foliage very large and long, a most prolific bearer.

Fruit very large, oblong heart-shaped, high shouldered, surface smooth. Skin a beautiful deep red, becoming nearly black at maturity. Flesh purplish, half tender, sweet, rich and excellent. Ripe about the time of Black Tartarian, or just after.

Rockport. Elliott.

Rockport Bigarreau.

Raised by Dr. Kirtland, Cleveland, Ohio. Tree vigorous, healthy, upright, forming a beautiful pyramidal head; a good bearer and worthy of a place in every good collection.

Fruit large, roundish, obtuse heart-shaped. Colour, when fully ripe, a beautiful bright red, shaded with pale amber. Flesh rather firm, juicy, sweet, rich, with an excellent flavour. Ripens early in June, or just before Mayduke.

CLASS I.

SECTION II.

Comprises those of "very good" quality, some of which, on further trial, may prove "best," and some for the third section.

American Heart.

American Heart. *Thomp.*

Its origin is uncertain. The tree is quite luxuriant, with wide-spreading branches. Productive.

Fruit pretty large, heart-shaped, often nearly four-sided, and irregular in its outline—borne in clusters. Skin, at first, pale, not becoming covered with light red or pink, mixed with very little amber. Stalk rather long and slender, inserted in a small and shallow cavity. Flesh half tender and crackling, adhering to the skin, which is rather tough; juice abundant, and, in dry

seasons, sweet and excellent, but rather wanting in sweetness in cool or wet seasons. Ripens early in June.

Amber Gean. Thomp.

Gean Amber.

It is exceedingly productive, ripens late, and hangs till the middle of July. Fruit small, oval or obtuse heart-shape. Skin very thin, colour pale yellow, partially overspread with a very faint red. Stalk long and slender, very slightly inserted. Flesh white, juicy, melting, of a sweet and pleasant flavour.

American Amber.

Bloodgood's Amber. Bloodgood's Honey.
Bloodgood's New Honey.

Raised by the late Daniel Bloodgood, of Flushing, Long Island. A vigorous tree, productive. Fruit of medium size, roundish heart-shaped, slightly indented at the apex. Skin thin, smooth, light amber, delicately mottled and overspread with bright red. Stalk long and slender, inserted in a slight narrow cavity. Flesh tender, abounding with a sprightly, though not high flavoured juice. Ripe about the 25th of June.

Anne.

A very productive early variety. Received from A. V. Bedford, Paris, Kentucky. Fruit medium to small, bright red, tender, juicy, very sweet and excellent, a good amateur's fruit, growth moderate. Ripe with Early White Heart, or soon after.

Baumann's May.

Bigarreau de Mai. *Ken.* Wilder's Bigarreau de Mai.
Bigarreau de Mai. *Thomp?*

Of foreign origin. A very productive, early variety, of vigorous growth, of good quality, but not equal to E. P. Guigne.

Fruit rather small, oval heart-shaped, and rather angular in outline. Skin deep rich red, becoming rather dark when fully ripe. Stalk an inch and three-fourths long, pretty stout at either end, and set in a very narrow and rather irregular cavity. Flesh purplish, tender, juicy, and when fully ripe, tolerably sweet and good. Ripens here the 20th of May.

Black Hawk. Elliott.

This variety not having yet fruited here, we give Mr. Elliott's description. The tree is of healthy, vigorous, spreading habit, with much of the general character of Yellow Spanish. As a table fruit, its high flavour will always commend it; while as a

market fruit, its size and productive habit of tree place it among the very best.

Fruit large, heart-shape, often obtuse, sides compressed, surface uneven, colour dark purplish black, glossy. Flesh dark purple, half tender, almost firm, juicy, rich, sweet, fine flavour. Season, from 20th June to 1st July.

BLACK MAZZARD. Thomp. Lind.

Mazzard,
Common English,
Wild English Cherry,
Black Honey,
Bristol Cherry.
} *of American gardens.*

Cerasus avium. *Dec.*

Wild Black Fruited,
Small Wild Black,
Whixley Black,
Merry Cherry.
} *of English gardens.*

Merisier à petit fruit. *O. Duh.*
Merisier à petit fruit noir.

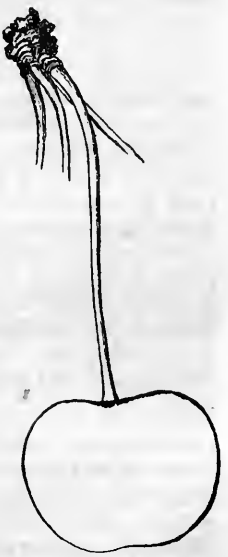
This is the wild species of Europe, being common in the forests of France and some parts of England; and it has now become naturalized, and grows spontaneously throughout most portions of the settled states. It is the original species from which nearly all the fine Heart and other sweet cherries have sprung. It is small, and of little value for eating, retaining, unless very ripe, a certain bitterness; but it ripens and hangs on the tree until the middle or last of July, so that it then becomes somewhat acceptable.

Fruit small, roundish or oval heart-shaped, flattened a little on both sides. Stalk long and very slender, inserted in a small depression. Skin thin, and when fully ripe, jet black. Flesh soft and melting, purple, with an abundant, somewhat bitter juice.

The WHITE MAZZARD, of Mr. Manning, is a seedling raised by that pomologist, which differs little except in its colour.

BLACK EAGLE. Thomp. Lind.

A very excellent English variety, raised by the daughter of Mr. Knight, at Downton Castle, in 1806, from the seed of the Bigarreau fertilized by the Mayduke. It ripens at the beginning of July or a few days later than the Black Tartarian.



Black Eagle.

Fruit rather above medium size, borne in pairs and threes; obtuse heart-shaped. Skin deep purple, or nearly black. Stalk of medium length, and rather slender. Flesh deep purple, tender, with a rich, high flavoured juice, superior to the Black Heart. Branches strong, with large leaves. Moderate bearer.

Black Bigarreau of Savoy. Ken.

New Large Black Bigarreau. *Ken.* Bigarreau Noir de Savoi.

An Italian variety, of very vigorous growth; hardy and productive; young wood quite dark.

Fruit large, regularly heart-shaped, very slightly obtuse. Skin smooth and even on the surface, not very glossy, quite black at maturity. Stalk an inch and three-fourths long, rather stout, set in a narrow even hollow. Flesh purple, quite firm and solid, with a rich but not abundant juice. Stone rather large. Ripe middle of July.

Walsh Cherry is similar to the above, and may prove the same.

Black Heart. Thomp. Mill. Lind.

Early Black.
Ansell's Fine Black.
Spanish Black Heart.
Black Russian, (*of American gardens.*)
Black Caroon, (*erroneously, of some.*)
Guinier à fruit noir. *O Duh.*
Guigne grosse noir.
Grosse Schwarze Hertz Kirsche.

The Black Heart, an old variety, is better known than almost any other cherry in this country, and its great fruitfulness and good flavour, together with the hardiness and the large size to which the tree grows, render it every where esteemed.

Fruit above medium size, heart-shaped, a little irregular. Skin glossy, dark purple, becoming deep black when fully ripe. Stalk an inch and a half long, slender, set in a moderate hollow. Flesh, before fully ripe, half tender, but finally becoming tender and juicy, with a rich, sweet flavour. Ripens the last of June, about ten days after the Mayduke.

Bigarreau d'Esperin.

One of M. Esperin's seedlings. Fruited here the past season. Tree vigorous, rather spreading; fruit large, roundish heart-shaped. Skin yellowish white, mottled and shaded with pale red. Stalk long, rather slender, inserted in a large cavity. Flesh rather firm, juicy, and good flavour. Ripe middle of July. Some have pronounced this the Holland Bigarreau, but it has not fruited enough to decide correctly.

Bigarreau, White. Prince's Pom. Man.

White Ox Heart, (*of the middle states.*)
White Bigarreau. *Thomp.*
Large White Bigarreau.
Ox Heart. *Coxe.*
Harrison Heart?
Turkey Bigarreau.
Bigarreau blanc?

The White Bigarreau, which is more common in the neighbourhood of New-York and Philadelphia, than any other part of the country. It is inferior to the Bigarreau or Graffion in hardiness, and in the circumstance that it is a very poor bearer while the tree is young, though it bears fine crops when it has arrived at from twelve to fifteen years' growth. The fruit strongly resembles that of the Bigarreau, but it is not so *obtuse* heart-shaped, and is more irregular in its outline. But the trees may be readily distinguished even when very small, as the Bigarreau has broad flat foliage, while the White Bigarreau has *narrow waved leaves.* Growth upright.

Fruit of the largest size, heart-shaped, with a rather irregular outline, and a pretty distinct suture line on one side. Skin yellowish white at first, but becoming quite overspread with marbling of red. Flesh firm, but scarcely so much so as that of the Bigarreau, and when fully ripe, half tender, and more luscious than the latter cherry. It is very liable to crack after rain. Middle and last of June.

Bigarreau Gros Cœuret. Thomp. Poiteau.

Large Heart-shaped Bigarreau.
Gros Cœuret.
Bigarreau Gros Monstreux.
Bon Jard.

This, the true Large Heart-shaped Bigarreau, is a French variety only rarely seen in the fruit gardens of this country.

Fruit large, roundish heart-shaped, with a suture line frequently raised, instead of being depressed. Skin at first yellowish red, marked with deeper red streaks, but becoming, when fully ripe, a dark shining red, almost black. Stalk inserted in a shallow hollow. Stone oval and rather large. Flesh firm, purplish, a little bitter at first, but of a sweet flavour when fully matured. Ripe first week in July.

Bowyer's Early Heart.

Medium size, obtuse heart-shaped. Skin amber, mottled, and shaded with red. Flesh tender, juicy, with a pleasant, vinous flavour. Distinct from Early White Heart. Ripens immediately after.

Bigarreau Tardif de Hildesheim. Thomp. Sickler.

Bigarreau marbré de Hildesheim. *Dict. d'Agri.*
Bigarreau Blanc Tardif de Hildesheim.
Hildesheimer ganz Späte Knorpel Kirsche.
Hildesheimer Späte Herz Kirsche.
Späte Hildesheimer Marmor Kirsche.
Hildesheim Bigarreau. *Prince.*

The Hildesheim Bigarreau is a German variety, which ripens here in August, and according to Thompson, is the latest sweet cherry known; a quality that renders it peculiarly valuable.

Fruit of medium size, heart-shaped. Skin yellow, mottled and marbled with red. Flesh pale yellow, firm, with a sweet and agreeable flavour. The tree is hardy, and will doubtless prove a valuable variety in this country.

Brant. Elliot.

Fruit large, rounded, angular, heart-shape, sides slightly compressed, colour reddish black. Flesh dark purplish red, half tender, juicy, sweet and rich. Season early or middle of June.

Origin, Cleveland, Ohio. Tree vigorous, with large foliage and spreading, of rather round, regular form.

Brandywine.

New. Originated with John R. Brinckle, near Wilmington, Delaware. A very free, vigorous grower.

Fruit above medium size, broad heart-shaped. Skin brilliant crimson, beautifully mottled. Fruit, tender, very juicy, saccharine, and with just enough sub-acid flavour to impart sprightliness. "Very good." Maturity last of June. (Ad. Int. Rept.)

Burr's Seedling.

Fruit large, heart-shaped, whitish yellow shaded with light red, and sometimes mottled. Flesh nearly tender, with a sweet, rich, excellent flavour. Ripe the last of June. Origin, Perrinton, Monroe county, N. Y.

Buttner's Black Heart.

From Germany. Fruit large, heart-shaped, almost black. Flesh purplish, firm, juicy, not very rich. Promises well. Ripe middle of July. A vigorous grower.

Carmine Stripe.

Raised by Prof. Kirtland. Tree vigorous, healthy, spreading. Very productive. Fruit above medium, heart-shaped; suture half round, followed by a line of carmine. Colour amber yellow, shaded and mottled with bright, lively carmine. Flesh tender, juicy, sweet, sprightly and agreeable. Pit small. Stalk varies. Season, last of June. (Elliott.)

Caroline.

Fruit above medium, round, oblong, one side compressed slightly. Colour pale amber, mottled with clear light red, and when fully exposed to the sun becomes rich red. Flesh very tender, juicy, sweet and delicate. Season last of June. Origin, Cleveland, Ohio. (Elliott.)

Champagne.

Raised by Charles Downing, Newburgh, N. Y. Tree of moderate growth and forms a round head.

Fruit of medium size, roundish heart-shaped. Colour lively brick red, inclining to pink, a little paler on the shaded side. Stalk of moderate length and size, inserted in a rather flat, shallow depression. Flesh amber coloured, of a lively rich flavour, a mingling of sugar and acid, something between Downer's late and a Duke cherry, a good bearer, and ripens uniformly and hangs some time on the tree. Season last of June.

Cleveland. Elliott.

Cleveland Bigarreau.

Raised by Professor Kirtland, a thrifty strong grower, productive, and a fine fruit.

Fruit large, round heart shape. Suture pretty broad, nearly half round. Colour bright clear red on yellowish ground. Flesh fine, juicy, rich, sweet, and fine flavour, ripe a few days before Black Tartarian.

Conestoga.

Origin, Conestoga, Lancaster County, Pa.

Fruit large, obtuse heart-shaped, dark purple. Stem long, slender, inserted in an open cavity. Flesh purplish, firm; flavour sugary and very pleasant. (Ad. Int. Rept.)

Davenport.

Davenport's Early. New Mayduke.

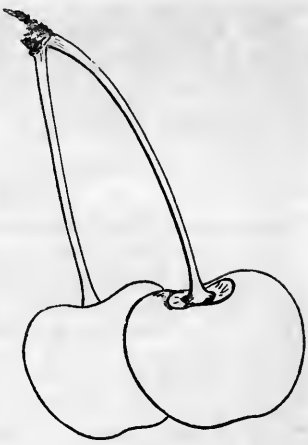
Origin, Dorchester, Mass. Tree of moderate growth, distinct from Black Heart, an early and good bearer.

Fruit above medium size, roundish heart-shaped. Stem an inch and a half long, rather stout in a medium cavity. Colour dark purplish black. Flesh tender, juicy and pleasant; ripe about the time of Mayduke or just before.

Downing's Red Cheek.

A very handsome and excellent seedling cherry, raised by Charles Downing, Newburgh, N. Y.

Fruit rather large, regularly obtuse heart-shaped, with a pretty distinct suture. Skin thin, (slightly pellucid when fully ripe,) white, with a rich dark crimson cheek (somewhat mottled,) covering more than half the fruit. Stalk an inch and a half long, set in an even hollow of moderate depth. Flesh yellowish, half tender, and of a very delicately sweet and luscious flavour. Leaves coarsely serrated, with dark footstalks. Ripens about the 14th of June.



Downing's Red Cheek.

Doctor. Elliott.

The Doctor.

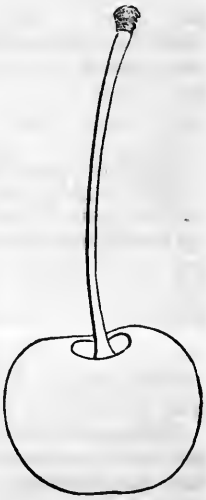
Tree a free grower, somewhat spreading, very productive; apt to be small unless well cultivated.

Fruit of medium size, roundish heart-shaped. Stalk of medium length, in a round, regular cavity. Colour light yellow, mostly shaded with bright red. Flesh tender, juicy and pleasant. Ripens early in June.

Downton. Thomp. Lind.

A very beautiful and excellent large variety raised by T. A. Knight, Esq., of Downton Castle, from the seed, it is believed, of the Elton. Moderately productive.

Fruit large, very blunt heart-shaped, nearly roundish. Stalk one and a half to two inches long, slender, set in a pretty deep, broad hollow. Skin pale cream colour, semi-transparent, delicately stained on one side with red, and marbled with red dots. Flesh yellowish, without any red, tender, adhering slightly to the stone, with a delicious, rich flavour. Last of June.



Downton.

Early Prolific. Elliott.

Raised by Dr. Kirtland. An excellent early, very prolific variety, of moderate growth. Fruit medium size, round, obtuse heart-shape. Light yellow ground, shaded and mottled with bright red. Stalk long. Flesh half tender, juicy, rich, sweet, and very good. Ripe about a week before Mayduke.

Early White Heart.

Arden's Early White Heart.
White Heart. *Coxe. Prince's Pom. Man.*
White Heart,
Dredge's Early White Heart,
White Transparent,
Amber Heart. } *Thomp. ?*
Swedish. Herefordshire White.

An old variety, although a good early fruit. It is not equal to Belle de Orleans, Early Prolific, and others of same season.

Fruit below medium size, rather oblong heart-shaped—often a little one-sided. Suture quite distinct. Stalk an inch and three-fourths long, rather slender, inserted in a wide shallow cavity. Skin dull whitish yellow, tinged and speckled with pale red in the sun. Flesh half tender, unless fully ripe, when it is melting, with a sweet and pleasant flavour. Tree grows rather erect, with a distaff-like head when young. First of June. Manning's Early White similar to above.

Elizabeth.

Fruit medium to large, heart-shaped. Skin rich dark red when fully ripe. Flesh half-tender, juicy, pleasantly sweet. Ripe middle to last of June. Tree vigorous, upright, very pro lific. Origin, Caleb Atwater, Ohio. (Elliott.)

Favourite. Elliott.

Elliott's Favourite.

Tree vigorous and productive. Fruit small to medium. Stalk long, rather slender, in a slight depression. Colour pale yellow, with a light red cheek, somewhat marbled. Flesh tender, juicy, sweet, and of a delicate flavour. Ripe last of June.

Florence. Thomp. Lind.

Knevett's Late Bigarreau.

A most excellent cherry, originally brought from Florence, in Italy, which considerably resembles the Bigarreau, but ripens a little later, and has the additional good quality of hanging a long time on the tree.

Fruit large, heart-shaped and regularly formed. Skin amber yellow, delicately marbled with red, with a bright red cheek, and when fully exposed, the whole fruit becomes of a fine lively red. Stalk over two inches long, slender, set in a deep hollow. Flesh yellowish, firm, very juicy, and sweet. In perfection from the last of June till the 10th or 15th of July.

Great Bigarreau of Mezel.

Great Bigarreau of Mezel. Montrous de Mozel. Bigarreau Gabalis.

A new foreign variety of the largest size. Productive, and of strong, rather crooked growth.

Fruit very large, obtuse heart-shaped, surface uneven, dark red, or quite black at maturity. Stem long and slender, flesh firm and juicy, but not high flavoured. Ripe last of June and beginning of July.

Hoadley.

Raised by Prof. Kirtland. Tree of healthy, vigorous habit; forming a round, spreading head. Fruit above medium, regular round heart-shape, light clear carmine red, mottled and striped on pale yellow. Flesh tender, juicy, rich, sweet, and delicious. Season, 20th to last of June. (Elliott.)

Hovey. Hov. Mag.

Not having fruited this cherry, we give Mr. Hovey's description. Tree vigorous, upright, forming a somewhat pyramidal head. Raised by Hovey & Co., Boston, Mass.

Fruit large, obtuse heart-shaped, with a shallow suture on one side. Skin clear, rich amber in the shade, beautifully mottled with brilliant red in the sun, often nearly covering the fruit. Stem short, about an inch long, rather stout, nearly straight, and inserted in a deep round cavity. Flesh pale amber, rather firm, but brisk, rich, and delicious. Ripe from the middle of July to beginning of August.

Hyde's Late Black.

Raised by T. & G. Hyde, Newton, Mass. Strong grower and good bearer.

Fruit medium, obtuse heart-shaped, purplish black, flesh half firm, juicy. Nearly as good as Black Eagle. Ripe first week in July.

Jocosot.

Fruit large, very regular, uniform heart-shape, slightly obtuse, and with a deep indenture at apex. Surface uneven, colour rich,

glossy, dark liver colour, almost black. Flesh tender, juicy, with a rich, sweet flavour. Season, near the last of June. Raised by Prof. Kirtland. (Elliott.)

Keokuk.

Fruit large, heart-shaped, dark purplish black, flesh half tender, rather coarse, and deficient in flavour. Its chief merit, a market variety. (Ripe early in July.) Strong, vigorous grower, forming a large tree. (Elliott.)

Kennicott.

Raised by Prof. Kirtland. Tree vigorous, hardy, spreading, very productive. Fruit large, oval heart-shape, compressed; suture shallow, half round, colour amber yellow, mottled and much overspread with rich, bright, clear, glossy red. Flesh firm, juicy, rich, and sweet. Season, 8th to 10th July. Size and beauty, and late ripening, will make it valuable where known. (Elliott.)

Kirtland's Mammoth.

Fruit of the largest size, obtuse heart-shaped. Colour, bright clear yellow, partially overspread and marbled with rich red. Flesh almost tender, juicy, sweet, with a very fine high flavour. Season, last of June. Tree vigorous, moderately productive. (Elliott.)

Kirtland's Mary. Elliott.

Raised by Prof. Kirtland. Tree, a strong, upright grower said to be one of the best of his seedlings, and desirable either for the dessert or market purposes. Not having fruited sufficiently with us, we give Mr. Elliott's description.

Fruit large, roundish, heart shape, very regular. Colour light, and dark rich red, deeply marbled and mottled on a yellow ground; grown fully in the sun, is mostly a rich, dark glossy red. Flesh light yellow, quite firm, rich, juicy, sweet, and very high flavoured. Season, last of June, and first of July.

Knight's Early Black.

Knight's Early Black. Thomp. Lind. P. Mag.

A most admirable early cherry, resembling the Black Tartarian, though much more obtuse in form, but ripening nearly a week earlier

Fruit large, a little irregular in outline, obtuse heart-shaped. Stalk of moderate length, rather stout, and inserted in a deep, open cavity. Skin dark purple, becoming black. Flesh purple, tender, juicy, with a rich and sweet juice of high flavour. Tree spreading. Moderately productive.

Late Bigarreau. Elliott.

Fruit large, obtuse heart-shaped. Skin deep yellow, shaded on the sunny side with bright red. Stalk long, inserted in a broad open cavity. Flesh almost firm, juicy, sweet, pleasant flavour. Ripe last of June and first of July. Tree thrifty, moderate growth, rather spreading. Productive.

Leather Stocking.

Raised by Professor Kirtland. Fruit medium, heart-shaped, reddish black. Flesh firm, sweet. Middle to last of July. (Elliott.)

Logan.

Fruit medium or above, obtuse, sometimes regular heart-shaped, with a hollow indenture at apex. Colour purplish black when ripe. Flesh nearly firm, juicy, sweet, and rich flavour. Season, middle to last of June. Originated with Prof. Kirtland. (Elliott.)

Madison Bigarreau. Manning.

Fruit of medium size, fair quality, roundish. Skin yellow, shaded with red. Flesh half tender, juicy, with a pleasant flavour. Ripe middle or last of June. Tree healthy; moderately productive.

Manning's Late Black.

Raised by Mr. Manning, of Salem, Mass. Fruit large, roundish, deep purple or nearly black. Flesh purplish, half tender, very juicy, sweet and excellent. Ripe the last of June. Tree vigorous.

Manning's Mottled.

Mottled Bigarreau. *Man.*

Raised by Mr. Manning. It is a most abundant bearer.

Fruit rather large, roundish heart-shaped, flattened on one side, with distinct suture lines. Skin amber colour, finely mottled and overspread with red, with a semi-transparent, glossy appearance. Stalk slender, inserted in a shallow hollow. Flesh when fully ripe, yellow, tender, with a sweet and delicious juice. Ripens the last of June.

Ohio Beauty. Elliott.

Tree a vigorous grower, with a rather spreading head, and has proved so far a productive, valuable kind. Fruit large, obtuse heart-shaped. Light ground, mostly covered with red. Flesh tender, brisk, juicy. Ripe about the middle of June.

Osceola. Elliott.

Originated with Prof. Kirtland. Moderate bearer and medium growth. Fruit above medium, heart-shaped. Colour fine dark red, approaching to black. Flesh juicy, tender, sweet and excellent. Ripe last of June.

Pierce's Late.

Originated with Amos Pierce, and introduced to notice by James Hyde and Son, Newton Centre, Mass., who say it is a fine late fruit. We give the description from the *N. E. Farmer*. Fruit medium, obtuse heart-shaped, dark red and mottled, light amber in the shade. Stalk rather short and slim. Flesh soft, tender, very juicy, sweet, rich and delicious; stone small. Ripe the last of July.

Growth free, rather upright, with a round head.

Pontiac.

Fruit large, obtuse heart-shaped, sides compressed, colour dark purplish red, approaching to black when fully ripe. Flesh half tender, juicy, sweet and agreeable. Season last of June. Originated with Prof. Kirtland. (Elliott.)

Powhatan.

Fruit medium size, uniform, roundish, flattened or compressed on sides; surface irregular. Colour liver-like, highly polished. Suture half round. Flesh rich, purplish red, marbled, half tender, juicy, sweet, pleasant but not high flavour. Season late, 8th to 15th of July.

For profitable market purposes, this is one of the very best, the fruit ripening late, and all being uniform and regular in size. Originated with Prof. Kirtland. (Elliott.)

President.

Fruit large, dark red, slightly mottled. Flesh half tender, juicy, sweet. Middle to last of June. Tree vigorous, spreading.

Proudfoot.

Raised by D. Proudfoot, Cleveland, Ohio. Tree vigorous.

Fruit large, heart-shaped, dark purplish red. Flesh firm, juicy, sweet. Ripe 15th to last of July. (Elliott.)

Red Jacket. Elliott.

One of Prof. Kirtland's seedlings. A free growing, rather spreading, late, and productive variety.

Fruit large, regular, obtuse heart-shaped. Colour amber, mostly covered with light red. Flesh half tender, juicy, good but not rich flavour. Stalk long, slender, in a moderate basin. Ripe about the time of Downer's Red.

Richardson. Cole.

Raised by J. R. Richardson, Boston. Fruit large, heart-shaped, dark red inclining to black. Flesh deep red, half tender, juicy, sweet. Last of June.

Roberts' Red Heart.

Originated in the garden of David Roberts, Esq., of Salem, Mass. Tree hardy, free grower. Bears abundantly, and hangs well without rotting.

Fruit of medium size, roundish heart-shape. Skin of a pale, amber ground, but nearly overspread with pale red, mottled with deeper red. Suture quite distinct. Flesh juicy, sweet and well flavoured. Stalk long, slender, set in a moderate depression. Ripe last of June.

Sparhawk's Honey. Man. Ken.

Sparrowhawk's Honey. *Thomp.*

Raised by Edward Sparhawk, of Brighton, near Boston. A profuse bearer. Vigorous grower.

Fruit of medium size, roundish heart-shaped—very regular in form. Stalk of moderate length, rather slender, set in a round, even depression. Skin thin, of a beautiful glossy pale amber-red, becoming a lively red when fully ripe. Flesh juicy, with a very sweet flavour. Ripe the last of June.

Sweet Montmorency. Man.

Allen's Sweet Montmorency.

Raised by J. F. Allen, Salem, Massachusetts. Tree hardy, vigorous growth. Habit of heart cherries. Less subject to rot than most sorts. Good bearer.

Fruit of medium size, round, flattened. Skin pale amber in the shade, light red, slightly mottled, in the sun. Stalk an inch and three fourths long, rather slender, inserted in a small, shal-

low, even hollow. Flesh yellowish, tender, sweet and excellent. Ripens here middle July.

Tecumseh.

Fruit medium to large, obtuse heart-shaped. Skin reddish purple. Flesh dark red, half tender, with a brisk, vinous flavour. Ripe towards the end of July. Tree moderately vigorous. (Elliott.)

Tradescant's Black Heart. Thomp.

Elkhorn, } *Prince.*
Elkhorn of Maryland. }
Large Black Bigarreau. *Man.*
Tradescant's, }
Bigarreau Gros Noir, } *ac. to Thomp.*
Guigne Noir Tardive, }
Gross Schwarze Knoorpel, }
Kirsche Mit Säftigen Fleisch. }

It is an European variety, but a tree growing about forty years since in the garden of an inn in Maryland, attracted the notice of the late Wm. Prince, who propagated it under the name of Elkhorn, by which it was there known. The bark is of a peculiarly gray colour, and the growth quite vigorous.

Fruit large, heart-shaped, with a very irregular or uneven surface. Skin deep black, glossy, (before fully ripe, deep purple, mottled with black). Stalk rather short, set in a pretty deep hollow. Flesh very solid and firm, dark purple, moderately juicy. Ripe first and second week in July.

Transparent Guigne. Forsyth. Prince. Pom. Man.

Transparent Gean. *Forsyth.*
Transparent.

It is a valuable and pretty variety for the dessert, hanging late on the tree, and is admired by all amateurs.

Fruit small, regular, oval heart-shaped. Skin glossy, thin, and nearly transparent, showing the network texture of the flesh beneath, yellowish-white, delicately blotched with fine red; distinct suture line on both sides. Stalk long and slender. Flesh tender and melting, and when fully ripe very sweet, mingled with a very slight portion of the piquant bitter of the Mazzard class of cherries. First of July.

Triumph of Cumberland.

Monstrous May. Brenneman's Early.
Street's May. Cumberland's Seedling.

Introduced to notice by David Miller Junior, of Carlisle,

Pennsylvania, and said to be a seedling of Cumberland County, Pa.

A strong, vigorous grower, and good bearer, not sufficiently tested. We copy from the report of the Penn. Hort. Society.

Fruit large, obtuse heart-shaped. Sometimes roundish, compressed, deep crimson, almost purple when fully ripe. Stem rather long, slender, in a broad open cavity, apex slightly depressed. Flesh rather solid, red, slightly adherent to the stone, quality "best." Period of maturity, about the middle of June.

Cumberland seedling from Ohio may prove same as above, but think it distinct.

Townsend.

Tree a strong, vigorous grower, productive, and promises well. Raised by W. P. Townsend, Lockport, N. Y.

Fruit large, obtuse heart-shaped, high shouldered, compressed, suture distinct, apex depressed. Stem long, somewhat slender, set in a broad, rather deep depression. Colour light amber, mottled, and shaded with carmine. Flesh almost tender, juicy, rich, sprightly, refreshing flavour, pit small. Ripe last of June.

Wendell's Mottled Bigarreau.

Fruit large, obtuse heart-shaped, dark red, nearly black at maturity, mottled. Flesh dark red, firm and high flavoured. Ripe about the time of Downer's Late.

Originated with Dr. H. Wendell, Albany, New York. Tree upright, thrifty growth.

Werder's Early Black Heart.

Werdsche Frühe Schwarze. Herz Kersche.

A promising, early variety. Tree vigorous, spreading, moderately productive.

Fruit large, roundish, heart-shaped, skin black, flesh purplish, tender, sweet and excellent. Ripens early in June, or just before Mayduke.

CLASS I.

SECTION III.

Contains those superseded by better sorts, a few of which are esteemed by some growers.

Adam's Crown.

Fruit full, medium in size, round heart-shape. Flesh pale red and white, tender and pleasant. Ripe last of June.

Belle Agathe.

This new cherry figured and described not long since as a fine, large, late variety, Mr. Rivers says has proved a small, hard, late fruit.

Bigarreau, Large Red.

Gros Bigarreau Rouge. *Poiteau.*
Bigarreau à Gros Fruit Rouge. *Bon. Jard.*
Bigarreau à Gros Fruit Rouge. *Thomp.?*
Belle de Rocmont (*of some*).

Fruit large, oblong heart-shape. Skin dark red in the sun. Flesh firm. Early in July.

Bigarreau, China. Prince's Pom. Man.

Chinese Heart. *Thomp.?*

Fruit of medium size, roundish heart-shaped, light amber, mottled and shaded with bright red. Flesh firm, with a sweet, peculiar flavour. Ripe last of June.

Bigarreau Black.

Bigarreau Noir.

Fruit middle sized, heart-shaped. Skin red, but becoming black. Flesh firm and rather dry. First of July.

Büttner's Yellow. Thomp.

Büttner's Wachs-Knorpel Kirsche.
Büttner's Gelbe-Knorpel Kirsche.

Raised by Büttner, of Halle, in Germany, and one of the few cherries *entirely yellow*. Fruit of medium size, roundish. Skin pale yellow. Flesh firm, yellowish, sweet, and not of much value. Ripe first week in July.

Corone. Thomp. Fors.

Couronne. *Lind.* Herefordshire Black.
Coroun. *Lang.* Black Orleans.
Large Wild Black.

Fruit below middle size, roundish heart-shaped. Skin dingy black when fully ripe. Flesh when ripe, tender, and of little value. Middle of July.

Gascoigne's Heart. Thomp.

Bleeding Heart. *Lind.*
Red Heart, (*of some,*) } *ac. to Thomp.*
Herefordshire Heart, }
Guigne Rouge Hative. }

An old English variety. Fruit of medium size, long heart-

shaped, small drop or tear, at the end. Skin dark red. Flesh reddish, half tender, with only a tolerable flavour. Ripe the last of June. A bad bearer.

Gifford's Seedling.

Small, roundish heart-shaped. Light red, very sweet. Productive, last of June.

Gridley.

Apple Cherry. *Maccarty.*

Fruit medium, roundish, black. Flesh firm, not very juicy nor rich. Ripens last of June. Productive. Origin, Massachusetts.

Honey. Thomp.

Large Honey. Late Honey.
Yellow Honey. Merisier à fruit blanc. *N. Duh.*

A small, late, very sweet fruit, formerly much esteemed. Fruit small, roundish, yellow and red. Flesh tender, very sweet. Middle of July.

Hyde's Red Heart.

Medium, heart-shaped. Skin pale, but becoming a light red at maturity. Flesh tender, sprightly. Ripe last of June. Origin Newton, Massachusetts. Tree vigorous, productive.

Jaune de Prusse.

Foreign; small, obtuse heart-shaped. Stalk long and slender, yellowish-white, tender, brisk, vinous, a little bitter before fully ripe, which is soon after Downer's Late.

Lady Southampton's Yellow. Thomp.

Lady Southampton's Duke,
Golden Drop, } *ac. to Thomp.*
Yellow or Golden,
Spanish Yellow.

Fruit of medium size, heart-shaped. Skin yellow. Flesh firm, not very juicy. Ripens about the middle of July.

Lundie Gean.

Fruit medium, roundish, purplish black. Flesh tender, juicy. July.

Manning's Early Black Heart.

Fruit medium, similar to the Black Heart, rather earlier and smaller in size. Ripe about the middle of June.

Merville de Septembre.

Tardive de Mons.

A French variety, ripening in August, vigorous grower. Fruit small, firm, rather dry, sweet, but of little value.

Ox Heart. Thomp.

Lion's Heart. Very Large Heart.
Bullock's Heart. Ochsen Herz Kirsche.

Fruit large, obtuse heart-shaped. Skin dark red. Flesh red, half tender, with a pleasant juice, of second quality in point of flavour. Ripens last of June.

Remington.

Remington White Heart. *Prince.*
Remington Heart.

Fruit small, heart-shaped. Skin yellow, rarely with a faint tinge of red on one side. Flesh yellowish, dry, and somewhat bitter. Middle and last of August.

Rivers's Early Heart.

Raised by Mr. Rivers, England.

Medium size, heart-shaped. Ripening just after Belle de Orleans, very much inferiour.

Rivers's Early Amber.

Raised by Mr. Rivers, England.

Medium size, heart-shaped, prolific, a sub-variety of old Early White Heart, but not as early.

Tobacco Leaved. Thom. Lind.

Four to the Pound.
Cerisier de 4 à Livre.
Bigarreautier à Feuilles de Tabac.
Bigarreautier à Grandes Feuilles.
Guignier à Feuilles de Tabac.
Vier auf ein Pfund.

Leaves very large. Fruit small. Hard, of no value.

White Tartarian. Thomp.

Fraser's White Tartarian,
Fraser's White Transparent,
Ambér à petit fruit.
} *ac. to Thomp.*

Fruit of medium size, obtuse heart-shaped. Skin pale yellow. Stalk slender. Flesh whitish yellow, half tender and very sweet.

CLASS II.

SECTION I.

Contains those of best quality and generally approved.

Arch Duke. Thomp. Lind. Fors.

Griotte de Portugal. *O. Duh. Nois.* Late Arch Duke.
Portugal Duke. Late Duke, (*of some.*)

Tree rather more vigorous than the Mayduke, with longer *diverging* branches, which become slightly pendulous in bearing specimens.

Fruit large, obtuse heart-shaped. Suture distinct on one side. Skin at first bright red, but becoming very dark when mature. Stalk an inch and a half long, slender, inserted in a rather deep open cavity. Flesh light red, melting, juicy, rich sub-acid flavour. Ripe the first and second week in July.

Belle Magnifique. Man.

Belle et Magnifique. *Ken.* Belle de Chatenay.
Magnifique de Sceaux. Belle de Sceaux.

Tree hardy, moderately vigorous, productive, a beautiful and excellent late variety. Useful for culinary purposes, and good table fruit when pretty ripe.

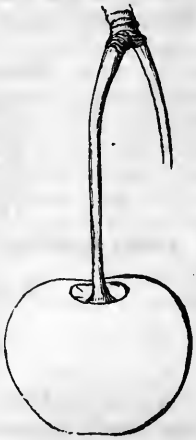
Fruit large, roundish, inclining to heart-shape. Stalk long, slender, in an open medium cavity. Skin a fine bright red. Flesh juicy, tender, with a sprightly sub-acid flavour, one of the best of its class. Ripe middle of July till the middle of August.

Late Duke. Thomp. Lind. P. Mag.

Anglaise Tardive.

A very large and fine Duke cherry, ripening a month later than the Mayduke, and therefore a very valuable sort for the dessert or for cooking. The tree is of vigorous growth for its class.

Fruit large, flattened or obtuse heart-shaped, much more depressed in its figure than the Mayduke. Colour, when fully ripe, rich dark red; (but at first white, mottled with bright red.) Stalk rather slender, inserted in a shallow hollow. Flesh yellowish, tender, juicy, with a sprightly sub-acid flavour, not quite so sweet and rich as the Mayduke. Ripens gradually, and hangs on the tree from the middle of July till the 10th of August.



Late Duke.

Mayduke. Mill. Thomp. Lind.

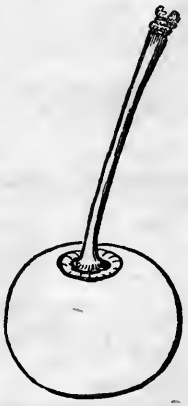
Royale Hâtive,
Cherry Duke, (*of some,*)
Cerise Guigne,
Coularde,
De Hollande,
D'Espagne,
Griotte Grosse Noire,
GriotteD'Espagne(*of some,*)
Griotte Précoce, (*of some,*)
Holman's Duke.

of various French gardens.

Early Duke,
Large Mayduke,
Morris Duke,
Morris's Early Duke,
Benham's Fine Ear. D'ke,
Thompson's Duke,
Portugal Duke,
Buchanan's Early Duke,
Millett's Late Heart Duke.

of various English gardens ac. to Thomp.

This invaluable early cherry is one of the most popular sorts in all countries, thriving almost equally well in cold or warm climates. This, the Black Heart, and the Bigarreau, are the most extensively diffused of all the finer varieties in the United States. And among all the new varieties none has been found to supplant the Mayduke. Before it is fit for table use, it is admirably adapted for cooking; and when fully ripe, it is, perhaps, the richest of the sub-acid cherries. In the gardens here, we have noticed a peculiar habit of this tree of producing very frequently some branches which ripen much later than the others, thus protracting for a long time the period in which its fruit is in use. The Mayduke is remarkable for its upright, or, as it is called, *fastigiate* head, especially while the tree is young, in distinction to other sorts, which produce many lateral branches.



Mayduke.

Fruit roundish or obtuse heart-shaped, growing in clusters. Skin at first of a lively red, but when fully ripe of a rich *dark* red. Flesh reddish, tender and melting, very juicy, and at maturity, rich and excellent in flavour. This fruit is most frequently picked while it is yet red, and partially acid, and before it attains its proper colour or flavour. It begins to colour, about New York, in favourable seasons, the last of May, and ripens during the first half of June.

Mayduke is said to be a corruption of *Médoc*, the province in France, where this variety (the type of all the class now called Dukes) is believed to have originated.

Reine Hortense.

Monstrous de Bevay.
Lemercier.
Belle de Bevay.
Seize à la Livre.

French origin, of Duke habit. Tree a healthy and handsome grower, productive, and a very desirable variety.

Fruit very large, roundish elongated. Skin a bright lively red, somewhat marbled and mottled. Suture distinctly marked by a line without any depression. Flesh tender, juicy, very slightly sub-acid and delicious. Ripe from the middle to the last of July.

Vail's August Duke.

A very excellent late cherry, of the Duke class. Originated with Henry Vail, Esq., Troy, N. Y., and bids fair to rival many of its season. Tree very productive, and of vigorous growth. Fruit large, obtuse heart-shaped, regular in form. Stalk medium length, inserted in a rather deep but narrow cavity. Skin rich bright red on the shaded side, and of a lively cornelian red in the sun. Flesh tender, sub-acid, much like the Mayduke in flavour. Ripe the last week in July, and the first week or two in August.

CLASS II.

SECTION II.

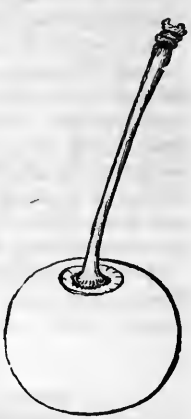
Comprises those of "very good" quality, some of which may prove "best."

Carnation. Thomp. Lind.

Wax Cherry.
Crown.
Cerise Nouvelle d'Angleterre,
Cerise de Portugal,
Grosse Cerise Rouge Pâle,
Griottier Rouge Pâle,
Griotte de Villennes.
} *of French gardens ac. to Thomp.*

A very handsome, light red, large cherry, highly esteemed here for brandying and preserving.

Fruit large, round. Skin at first yellowish white, mottled with red, but becoming a lively red slightly marbled. Stalk about an inch and a half long, stout. Flesh tender, a little more firm than most of this division, but juicy, and when fully ripe, of a sprightly and good sub-acid flavour. The foliage is pretty large, and the wood strong, but the tree has a spreading, rather low habit. It is a moderate but regular bearer, and the fruit hangs a long while on the branches, without decaying. Ripe the middle and last of July.



Carnation.

Prince's Duke is a very large variety of this cherry, raised from a seed of it, by Mr. Prince, of Long Island. Its shy habit of bearing renders it of little value.

Christiana and Mary.

Two varieties raised by B. B. Kirtland, Greenbush, N. Y., and noted in the Horticulturist as resembling, in tree and fruit, the Mayduke, and are probably sub-varieties.

Coe's Late Carnation.

A promising late variety. Fruit above medium size, roundish; suture shallow, with a line. Colour amber, mostly shaded and mottled with bright red. Flesh juicy and sprightly sub-acid. Ripe from the middle till the last of July.

Duchess de Palluau.

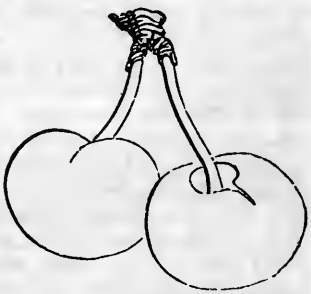
A new foreign sort, medium size, roundish heart-shaped, compressed, very dark purple. Stem long and slender, in a large open cavity. Flesh dark red, tender, juicy, mild acid. Ripe the middle of June. Vigorous growth for its class.

Flemish. Thomp.

Montmorency (*of Lindley.*)
Kentish (*of some.*)
Cerise à Courte Queue. *Poit.*
Montmorency à Gros Fruit, Gros Gobet, Gobet à Courte Queue. } *O. Duh.*
A Courte Queue de Provence.
English Weichsel?
Weichsel mit gauzkurzen stiel, Double Volgers. } *of the Dutch.*

This is a very odd looking fruit, being much flattened, and having a very short stalk.

Fruit rather large, very much flattened both at the top and base, and generally growing in pairs. Stalk stout, short. Skin shining, of a bright lively red. Flesh yellowish white, juicy, and sub-acid. Good for preserving; but, unless very ripe, scarcely rich enough for table use. Last of July.



Flemish.

Jeffrey's Duke. Thomp.

Jeffrey's Royal. *Lind.*
Jeffrey's Royal Caroon.
Royale, Cherry Duke. } *O. Duh.*
Royale Ordinaire. *Poiteau.*

Fruit of medium size, round, or a little flattened at the apex

and basin. Skin of a fine lively red. Stalk moderately long. Flesh yellowish amber, scarcely red. Juice abundant, and of a rich flavour. The trees are of a distinct habit of growth, being very compact, and growing quite slowly. The buds are very closely set, and the fruit is borne in thick clusters. Middle and last of June.

Kentish. Thomp.

Virginian May, Early Richmond. } *of American gardens.*
Kentish, or Flemish. } *Lind.*
Common Red, Sussex, Pie Cherry, Kentish Red. } *of the English.*
Montmorency. *O. Duh.* Montmorency à longue queue, Commune, Muscat de Prague. } *of the French.*

The true Kentish cherry, an old European sort, better known here as the Early Richmond, is one of the most valuable of the acid cherries. It begins to colour about the 20th of May, and may then be used for tarts, while it will hang upon the tree, gradually growing larger, and losing its acidity, until the last of June, or in dry seasons, even until July, when it becomes of a rich, sprightly, and excellent acid flavour. The tree grows about eighteen feet high, with a roundish spreading head, is exceedingly productive, and is from its early maturity a very profitable market fruit, being largely planted for this purpose in New Jersey. This kind is remarkable for the tenacity with which the stone adheres to the stalk. Advantage is taken of this to draw out the stones. The fruit is then exposed to the sun, and becomes one of the most excellent of all dried fruits.

Fruit when it first reddens rather small, but, when fully ripe, of medium size, round, or a little flattened; borne in pairs. Skin of a fine bright red, growing somewhat dark when fully ripe. Stalk an inch and a quarter long, rather stout, set in a pretty deep hollow. Flesh melting, juicy, and, at maturity, of a sprightly rather rich acid flavour.

Large Morello.

Kirtland's Large Morello.

Raised by Prof. Kirtland. Promises valuable, but as yet not fully tested. Fruit above medium, roundish, dark red, juicy, rich acid, good flavour; pit small. Season, early in July. (Elliott.)

Morello. Thomp. Lind. Lang.

Milan. *Lang.*
Cerise du Nord. *Nois.*
Griotte Ordinaire du Nord.
September Weichsel Grosse.
English Morello.
Large Morello.
Dutch Morello.
Ronald's Large Morello.

The Morello is a fine fruit. Its name is said to be derived from the dark purple colour of its juice, which resembles that of the *Morus* or Mulberry. It is highly valuable for all kinds of preserves, and is an agreeable addition to a dessert.

Fruit of pretty large size, round, or slightly obtuse, heart-shaped. Skin dark red, becoming nearly black when fully ripe. Flesh dark purplish red, tender, juicy, and of a pleasant sub-acid flavour, when quite mature. Ripe 20th of July.

The Common Morello of this country, is a smaller variety of the foregoing, and a little darker in colour. Little esteemed.

Plumstone Morello.

Tree of slow growth, makes a fine pyramid. A productive, hardy, and valuable sort.

Fruit large, roundish, inclining to heart shape. Skin, deep red. Stalk an inch and a half long, rather slender and straight, set in a hollow of moderate depth. Flesh reddish, tender, juicy, and when well matured, of a sprightly and agreeable flavour. Stone long and pointed. Ripe last of July, and first of August.

Royal Duke. Thomp.

Royale Anglaise Tardive.

Growth upright, compact head, branches less slender than Mayduke. Moderate bearer.

Fruit large, roundish, and distinctly oblate or flattened. Skin dark red. Flesh reddish, tender, juicy and rich. A good bearer. Ripens in the last of June.

Shannon.

This is a Morello raised by Prof. Kirtland, and as it has not fruited with us, we give Mr. Elliott's description.

Fruit slightly above medium size, globular, flattened at junction with stem. Dark purplish red, when ripe. Flesh tender, reddish purple, juicy, acid. Pit small. Stem long, slender, inserted in an open cavity. Season, middle of July. (Elliott.)

CLASS II.

SECTION III.

contains those superseded by better ones.

Belle de Sceaux.

Chatenay.

A Morello, from France. Fruit round; deep red. Flesh yellowish, juicy, acid. Last of June.

Belle Vezzouris.

Medium to large, light red, somewhat transparent, sub-acid. Quality good to very good. Ripe about the same time as Downer's Red.

Buttner's October Morello.

A new foreign sort. Small, late, acid, and of little or no value.

Cluster. Thomp.

Cerise à Bouquet. *Poiteau. Duh.*
Cerisier à Trochet, } *of French gardens.*
Chevreuse, }
Commune à Trochet, }
Tres Fertile, }
Griottier a Bouquet. }
Bouquet Amarelle, } *of the Germans.*
Trauben Amarelle, }
Busch Weichsel, }
Flandrische Weichsel, }
Büschel Kirsche. }

A very curious fruit, growing closely clustered around a common stalk, small size, borne in clusters of from two to six; round, of a lively red. Ripens the last of June. The tree is small in all its parts.

De Spe.

Full medium size, quite acid. Ripe soon after Mayduke, and forms a prolific bush.

Early May. Thomp. Lind.

May Cherry. *Lang.*
Small May.
Cerisier Nain à Fruit Rond.
——————— Précoce. *O. Duh.*
Griottier Nain Précoce.
Hative.
Précoce.
Petite Cerise Rouge Précoce.
Königliche Amarelle.
Frühe Kleine Runde.
Zwerg Weichsel.
Cerise Indulle.

An early Morello of rather dwarf habit. Ripening about the first of June. Fruit small, round, slightly flattened. Lively red, tender, juicy, acid. Not of much value.

Guigne Noir Luisante.

Black Spanish.

Fruit medium size, round heart-shaped, glossy, blackish red. Flesh reddish purple, tender, juicy, rich, acid. Ripe middle to last of July.

Imperial Morello.

A productive and early bearing variety. Fruit medium size, roundish, dark purplish red. Flesh tender, juicy, acid. Last of July.

Late Kentish.

Common Red,
Pie Cherry,
Common Sour Cherry,
Kentish Red,
Kentish.
} *of American gardens.*

This cherry, a variety of the Kentish, is better known among us than any other acid cherry.

It is emphatically the *Pie Cherry* of this country, being more generally grown than any other sort.

Fruit medium, round, flattened. Skin deep lively red, when fully ripe. Flesh very tender, and abounding with a highly acid juice. Ripens middle July.

Louis Phillip. Elliott.

A Morello, from France. Fruit medium, roundish, dark red. Flesh red, juicy, tender, acid. Middle of July.

Ramsey's Late Morello.

Origin unknown. Tree moderately vigorous, with unusually light coloured wood and leaves. Ripens gradually through August and September. Not of much value except to the curious amateur.

Fruit large, roundish heart-shaped. Colour, rich lively red. Flesh juicy, with too much acid for the table.

ORNAMENTAL VARIETIES.

Large Double Flowering.

Double French Cherry.
Merisier à Fleurs Doubles. *Thomp. Duh.*
Prunus cerasus pleno.
Cerasus sylvestris, flore pleno. *Arb. Brit.*

The double blossomed cherry bears no fruit, but whoever ad-

mires a beautiful flowering tree, cannot refuse a place in his garden to this one, so highly ornamental. Its blossoms, which appear at the usual season, are produced in the most showy profusion; they are about an inch and a half in diameter, and resemble clusters of the most lovely, full double, white roses. The tree has the habit and foliage of the Mazzard Cherries, and soon forms a large and lofty head.

Dwarf Double Flowering.

Double Flowering Kentish.
Small Double Flowering.
Cerisier à Fleurs Doubles. *Thomp. N. Duh.*

This is a double flowering variety of the sour or Kentish cherry, and has the more dwarfish habit and smaller leaves and branches of that tree—scarcely forming more than a large shrub, on which account it is perhaps more suitable for small gardens. The flowers are much like those of the large double flowering, but they are not so regular and beautiful in their form.

Chinese Double Flowering.

Yung To.
Cerasus serrulata.
Serrulated Leaved Cherry. } *Arb. Brit.*

This is a very rare variety, recently imported from China, with the leaves cut on the edges in that manner known as serrulate by botanists. Its flowers, which are borne in fascicles, are white, slightly tinged with pink, and nearly as double as those of the large double flowering. The tree considerably resembles the sour cherry tree, and appears rather dwarfish in its growth.

Weeping, or Allsaints. Thomp.

Ever flowering Cherry,
C. vulgaris, semperplorens. } *Arb. Brit.*
Cerise de la Toussainte. *N. Duh. Nois.*
Guignier à rameaux pendans,
Cerise Tardive,
Cerisier Pleurant,
Cerise de St. Martin. } *of the French.*
St. Martin's Amarelle,
Martin's Weichsel,
Monats Amarelle,
Allerheiligen Kirsche. } *of the Dutch.*

This charming little tree, with slender, weeping branches, clothed with small, almost myrtle-like foliage, is a very pleasing ornament, when introduced on a lawn. Its fruit is a small, deep

red Morello, which is acid, and in moist seasons, is produced for a considerable period successively. When grafted, as it generally is, about the height of one's head, on a straight stem of the common Mazzard, it forms a beautiful parasol-like top, the ends of the branches weeping half way down to the ground.

Virginian Wild Cherry.

Wild Cherry, *of the United States.*
Cerasus Virginiana. *Arb. Brit. Dec.*
Cerasier de Virginie. *French.*
Virginisch Kirsche. *German.*

Our native wild cherry is too well known to need minute description. It forms a large and lofty forest tree, with glossy, dark green leaves, and bears currant-like bunches of small fruit, which are palatable, sweet, and slightly bitter when fully ripe, at midsummer. They are, however, most esteemed for preparing *cherry bounce*, a favourite *liqueur* in many parts of the country, made by putting the fruit along with sugar in a demijohn or cask of the best old rum.

The *black* wild cherry, (*C. serotina*, Torrey and Gray,) which ripens the first of September, is the best kind. The other species, (*C. Virginiana*,) which is commonly known as the *Choke Cherry*, bears *reddish* coloured fruit, which is more astringent, and ripens a month earlier.

Selection of choice Cherries to ripen in succession. Early Purple Guigne, Belle de Orleans, Mayduke, Belle de Choisy, Rockport, Bigarreau, Tartarian, Elton, Gov. Wood, Coe's Transparent, Great Bigarreau, Delicate, Downer's Late, Reine Hortense, Belle Magnifique, Kentish.

The hardiest cherries are the Kentish, (or Virginia May,) the Dukes, and the Morellos. These succeed well at the farthest limits, both north and south, in which the cherry can be raised; and when all other varieties fail, they may be depended on for regular crops. Next to these, in this respect, are the Black Heart, Downer's Late, Early Purple Guigne, and Elton.

CHAPTER XIII.

THE CURRANT.

Ribes rubrum, Lin. *Grossulaceæ*, of botanists.
Grossillier commun, of the French; *Die Johannisbeere*, German; *Albesseboom*, Dutch; *Ribes rosso*, Italian; and *Grossella*, Spanish.

The name currant is said to be derived from the resemblance

in the fruit to the little *Corinth* grapes or raisins, which, under the name of *currants*, are sold in a dried state in such quantities by grocers; the latter word being only a corruption of *Corinth*, and the fruit of this little grape being familiarly known as such long before the common currants were cultivated.

The currant is a native of Britain, and the north of Europe, and is, therefore, an exceedingly hardy fruit-bearing shrub, seldom growing more than three or four feet high. The fruit of the original wild species is small and very sour, but the large garden sorts produced by cultivation, and for which we are chiefly indebted to the Dutch gardeners, are large and of a more agreeable, sub-acid flavour.

The Black Currant, (*Ribes nigrum,*) is a distinct species, with larger leaves, and coarser growth, and which, in the whole plant, has a strong odour, disagreeable, at first, to many persons.

Uses. The cooling acid flavour of the currant is relished by most people, in moderate quantities, and the larger varieties make also a pretty appearance on the table. Before fully ripe, currants are stewed for tarts, like green gooseberries, and are frequently employed along with cherries or other fruits in the same way; but the chief value of this fruit is for making *currant jelly*, an indispensable accompaniment to many dishes. *Currant shrub*, made from the fruit in the same manner as lemonade, is a popular summer drink in many parts of the country, and corresponds to the well known Paris beverage, *eau de grosseilles.* A sweet wine of very pleasant taste, is made from their expressed juice, which is very popular among farmers, but which we hope to see displaced by that afforded by the Isabella and Catawba grapes,—which every one may make with less cost and trouble, and which is infinitely more wholesome, because it requires less additions, of any kind, to the pure juice.

The fruit of the black currant is liked by some persons in tarts, but it is chiefly used for making a jam, or jelly, much valued as a domestic remedy for sore throats. The young leaves dried, very strongly resemble green tea in flavour, and have been used as a substitute for it.

The season when currants are in perfection is midsummer, but it may be prolonged until October by covering the bushes with mats, or sheltering them otherwise from the sun.

Propagation and Culture. Nothing is easier of culture than the currant, as it grows and bears well in any tolerable garden soil. Never plant out a currant sucker. To propagate it, it is only necessary to plant, in the autumn, or early in the spring, slips or cuttings, a foot long, in the open garden, where they will root with the greatest facility. The currant should never be allowed to produce suckers, and, in order to ensure against this, the superfluous eyes or buds should be taken out before planting it, as has been directed under the head of Cuttings.

When the plants are placed where they are finally to remain, they should always be kept in the form of trees—that is to say, with single stems, and heads branching out at from one foot to three feet from the ground. The after treatment is of the simplest kind; thinning out the superfluous wood every winter, is all that is required here. Those who desire berries of an extra large size *stop*, or pinch out, the ends of all the strong growing shoots, about the middle of June, when the fruit is two-thirds grown. This forces the plant to expend all its strength in enlarging and maturing the fruit. And, we may add to this, that it is better not to continue the cultivation of currant trees after they have borne more than six or eight years, as finer fruit will be obtained, with less trouble, from young plants, which are so easily raised.

There are, nominally, many sorts of currants, but the following sorts comprise all at present known, worthy of cultivation. The common Red, and the common White, are totally undeserving a place in the garden, when those very superior sorts, the White, and Red Dutch, can be obtained.

Attractor.

A new variety from France. White, very large, productive and vigorous.

Champagne. Thomp. Lind.

Pleasant's Eye.
Grossellier à Fruit Couleur de Chair.

A large and handsome currant, of a pale pink, or flesh colour, exactly intermediate in this respect, between the red and white Dutch. It is quite an acid sort, but is admired by many for its pretty appearance.

Cherry.

A new strong growing variety, with stout, erect, short-jointed shoots; leaves large, thick, and dark green. Not any more productive than other currants, but a valuable one for market and preserving.

Fruit of the very largest size. Branches short. Berries deep red, and rather more acid than Red Dutch.

Fertile Currant of Palluau.

New, from France. Said to be large, excellent and very productive. Not yet tested here.

Gondoin Red.

From France. Rather late; light red; large, quite acid, large bunches, leaves large, vigorous grower, very productive.

Gondoin White.

Fruit large, whitish yellow, quite sweet, more so than any other sort, branches rather long, strong growth, productive.

Knight's Sweet Red.

This is not a sweet currant, but is considerably less acid than other red currants, not as sweet as White Dutch. Fruit nearly as large as Red Dutch; rather lighter in colour. Productive.

Knight's Early Red.

The merit of this variety is in its ripening a few days earlier than other sorts.

Knight's Large Red.

Fruit very large bright red, bunches very large, very productive, an excellent sort.

Long Bunched Red.

Grosse Rouge de Holland.

Fruit large, bunches long, berries deep red, much like Red Dutch, with a little larger clusters, and rather larger fruit. Very productive.

La Versaillaise.

New French Currant, very large, with long bunches; next in size to cherry currant, deep red, very productive.

La Hative.

A new early red currant from France, not yet fruited here. Said to be excellent.

La Fertile.

From France. Large, deep red; very productive.

Prince Albert.

New, vigorous grower, large foliage, late in ripening, productive and valuable. Fruit very large, similar in colour to Victoria.

Red Dutch.

Large Red Dutch. Large Bunched Red.
New Red Dutch. Morgan's Red.
Grossillier Rouge à Gros Fruit.

An old, well-known sort, thrifty, upright growth, very productive. Fruit large, deep red, rich acid flavour, with clusters two or three inches long.

Red Grape.

Fruit very large, bunches very long, beautiful clear red colour. a little more acid than Red Dutch, and not quite so upright in its growth. Very productive.

Red Provens.

Similar to Red Dutch, but stronger in growth.

Short Bunched Red.

Much like Red Dutch, with rather shorter bunches. Fruit not quite as large.

Striped Fruited.

Grosse Weiss und Rothgestreifte Johannesbeere.

A pretty new fruit from Germany. Distinctly striped, small, poor bearer, and of no value except as a curiosity.

Transparent.

Blanc Transparent.

A new French currant. Fruit very large, yellowish white, similar to White Dutch. Very productive.

Victoria.

May's Victoria.	Rubey Castle.
Houghton Castle.	Goliath.

A very excellent, rather late sort, with very long bunches of bright red fruit; and is an acquisition to this class of fruits. Berries as large as Red Dutch, bunches rather longer, of a brighter red, growth more spreading, and very productive. Will hang on the bushes some two weeks longer than most currants.

White Clinton.

Very similar to White Dutch, if not the same.

White Antwerp.

Fruit very large, sweet, bunches rather long. Very productive.

White Grape.

Bunches moderately long. Berries very large, whitish yellow, sweet and good. Very productive. Branches more horizontal than White Dutch.

White Dutch.

New White Dutch. Reeve's White.
White Crystal. Morgan's White.
White Leghorn.

This is precisely similar to Red Dutch in habit, but the fruit is larger, with rather shorter bunches, of a fine yellowish white colour, with a very transparent skin. It is considerably less acid than the red currants, and is therefore much preferred for the table. It is also a few days earlier. Very productive.

II. Black Currants, (*R. nigrum.*)

Common Black. Thomp.

Black English.
Casis, (*of the French.*)

The common Black English Currant is well known. The berries are quite black, less than half an inch in diameter, and borne in clusters of four or five berries. It is much inferior to the following.

Black Naples. Thomp. P. Mag. Lind.

The Black Naples is a beautiful fruit, the finest and largest of all black currants, its berries often measuring nearly three fourths of an inch in diameter. Its leaves and blossoms appear earlier than those of the Common Black, but the fruit is later, and the clusters, as well as the berries, are larger and more numerous.

Ornamental Varieties. There are several very ornamental species of currant, among which we may here allude to the Missouri Currant, (*Ribes Aureum*), brought by Lewis and Clark from the Rocky Mountains, which is now very common in our gardens, and generally admired for its very fragrant yellow blossoms. Its oval blue berries, which are produced in great abundance, are relished by some persons. But there is a *Large Fruited* Missouri Currant, a variety of this, which bears berries of the size of the Black Naples, and of more agreeable flavour.

The Red Flowering Currant (*R. Sanguineum*), is a very beautiful shrub from the western coast of America, with foliage somewhat like that of the Common Black, but which bears very charming clusters of large light crimson blossoms, in April.

There are several other varieties as R. sanguineum, fl. pl., R. sanguineum atropurpurea, and R. Gerdoni. They are not quite hardy enough to stand our winters without protection, but at the South, will make a valuable addition to their shrubbery.

CHAPTER XIV.

THE CRANBERRY.

Oxycoccus, Arb. Brit. *Ericaceæ*, of botanists.
Airelle, of the French; *Die Moosebeere*, German; *Veen bessen*, Dutch; *Ossicocco*, Italian.

THE Cranberry is a familiar trailing shrub growing wild in swampy, sandy meadows, and mossy bogs, in the northern portions of both hemispheres, and produces a round, red, acid fruit. Our native species, (*O macrocarpus*,) so common in the swamps of New-England, and on the borders of our inland lakes, as to form quite an article of commerce, is much the largest and finest species; the European Cranberry, (*O. palustris*,) being much smaller in its growth, and producing fruit inferior in size and quality. Also the Russian, (*O. viridis*,) a medium sized variety,

Of the *O. macrocarpus*, there are three varieties:—The "Bell-shaped," which is the largest and most valued, of a very dark, bright red colour. The "Cherry," two kinds, large and small; the large one the best, of a round form, a fine, dark red berry, nearly or quite equal to the Bell-shaped; and the Bugle, Oval, or Egg-shaped, two kinds, large and small, not so high coloured as the Bell and Cherry—not so much prized, but still a fine variety.

The value of the common cranberry for tarts, preserves and other culinary uses, is well known, and in portions of the country where it does not naturally grow, or is not abundantly produced, it is quite worth while to attempt its culture. Although, naturally, it grows mostly in mossy, wet land, yet it may be easily cultivated in beds of peat soil, made in any rather moist situation, and if a third of old thoroughly decayed manure is added to the peat, the berries will be much larger and of more agreeable flavour than the wild ones. A square of the size of twenty feet, planted in this way, will yield three or four bushels annually—quite sufficient for a family. The plants are easily procured, and are generally taken up like squares of sod or turf, and planted two or three feet apart, when they quickly cover the whole beds.

In some parts of New-England, low and coarse meadows, of no value, have been drained and turned to very profitable account, by planting them with this fruit. The average product is from eighty to one hundred bushels of cranberries, worth at least one dollar a bushel, and the care they require after the land is once

prepared and planted is scarcely any at all, except in gathering. Some of the farms in Massachusetts yield large crops, partly from natural growth, and partly from cultivated plantations. The "New-England Farmer" states that Mr. Hayden, of Lincoln, Mass., gathered 400 bushels from his farm in 1830. The cranberry grows wild in the greatest abundance, on the sandy low necks near Barnstable, and an annual cranberry festival is made of the gathering of the fruit, which is done by the mass of the population, who turn out on the day appointed by the authorities, and make a general gathering with their cranberry rakes, a certain portion of the crop belonging, and being delivered, to the town.

Capt. Hall, one of the most successful cranberry cultivators of that neighbourhood, thus turns his sandy bogs and rush-covered land to productive beds of cranberry. After draining the land well, and removing all brush, he ploughs the soil where it is possible to do so; but he usually finds it sufficient to cover the surface with a heavy top-dressing of beach sand, digging holes four feet apart into which he plants sods, or square bunches, of the cranberry roots. These soon spread on every side, overpowering the rushes, and forming a thick coating to the surface. A labourer will gather about thirty bushels of the fruit in a day, with a cranberry rake.

Cranberry culture would be a profitable business in this neighbourhood, where this fruit is scarce, and, of late years, sells for two or three dollars a bushel.

CHAPTER XV.

THE FIG.

Ficus Carica, L. Arb. Brit. *Urticaceæ*, of botanists; *Figuier*, of the French; *Feigenbaum*, German; *Fico*, Italian; *Higuera*, Spanish.

THIS celebrated fruit tree, whose history is as ancient as that of the world, belongs properly to a warm climate, though it may be raised in the open air, in the middle states, with proper care.

In its native countries, Asia and Africa, near the sea-coast it forms a low tree, twenty feet in height, with spreading branches, and large, deeply lobed, rough leaves. It is completely naturalized in the south of Europe, where its cultivation is one of the most important occupations of the fruit grower.

The fruit of the Fig tree is remarkable for making its appearance, growing, and ripening, without being preceded by any apparent blossom. The latter, however, is concealed in the

interior of a fleshy receptacle which is called, and finally becomes, the fruit. The flavour of the fig is exceedingly sweet and luscious, so much so as not to be agreeable to many persons, when tasted for the first time; but, like most fruits of this kind, it becomes a great favourite with all after a short trial, and is really one of the most agreeable, wholesome, and nutritious kinds of food. It has always, indeed, been the favourite fruit of warm countries, and the ideal of earthly happiness and content, as typified in the Bible, consists in sitting under one's own fig tree.

Its cultivation was carried to great perfection among the ancient Romans, who had more than twenty varieties in their gardens. But the Athenians seem to have prided themselves most on their figs, and even made a law forbidding any to be exported from Attica. Smuggling, however, seems to have been carried on in those days, and a curious little piece of etymological history is connected with the fig. The informers against those who broke this law were called *sukophantai*, from two words in the Greek, meaning the "discoverers of figs." And as their power appears also to have been used for malicious purposes, thence arose our word *sycophant*. The fig was first introduced from Italy about 1548, by Cardinal Poole, and to this country about 1790, by Wm. Hamilton, Esq.

Propagation. This tree is very readily increased by cuttings taken off in the month of March, and planted in light soil in a hot bed, when they will make very strong plants the same season. Or, they may be planted in a shady border in the open air, quite early in April, with tolerable success. In either case the cuttings should be made eight or ten inches long, of the last year's shoots, with about half an inch of the old, or previous year's wood left at the base of each.

Soil and culture. The best soil for the fig is one moderately deep, and neither too moist nor dry, as, in the former case, the plant is but too apt to run to coarse wood, and, in the latter, to drop its fruit before it is fully ripe. A mellow, calcareous loam, is the best soil in this climate—and marl, or mild lime in compost, the most suitable manure.

As in the middle states this tree is not hardy enough to be allowed to grow as a standard, it is the policy of the cultivator to keep it in a low and shrub-like form, near the ground, that it may be easily covered in winter. The great difficulty of this mode of training, with us, has been that the coarse and overluxuriant growth of the branches, when kept down, is so great as to render the tree unfruitful, or to rob the fruit of its due share of nourishment. Happily the system of *root-pruning*, recently found so beneficial with some other trees, is, in this climate, most perfectly adapted to the fig. Short pointed wood, and only moderate vigour of growth, are well known accom-

paniments of fruitfulness in this tree; and there is no means by which firm, well ripened, short-jointed wood is so easily obtained as by an annual pruning of the roots—cutting off all that project more than half the length of the branches. In this way the fig tree may be kept in that rich and somewhat strong soil necessary to enable it to hold its fruit, and ripen it of the largest size, without that coarseness of growth which usually happens in such soil, and but too frequently renders the tree barren. The mode of performing root-pruning we have already described, but we may add here that the operation should be performed on the fig early in November. When this mode is adopted but little pruning will be necessary, beyond that of keeping the plant in a somewhat low and regular shape, shortening-in the branches occasionally, and taking out old and decaying wood.

In winter, the branches of the fig must be bent down to the ground, and fastened with hooked pegs, and covered with three or four inches of soil, as in protecting the foreign grape. This covering should be removed as soon as the spring is well settled. Below Philadelphia, a covering of straw, or branches of evergreens, is sufficient—and south of Virginia the fig is easy of culture as a hardy standard tree.

Two crops are usually produced in a year by this tree; the first which ripens here in midsummer, and is borne on the previous season's shoots; and the second which is yielded by the young shoots of this summer, and which rarely ripens well in the middle states. It is, therefore, a highly advantageous practice to rub off all the young figs of this second crop after midsummer, as soon as they are formed. The consequence of this is to retain all the organizable matter in the tree; and to form new embryo figs where these are rubbed off, which then ripen the next season as the first crop.

Ripening the Fruit. In an unfavourable soil or climate, the ripening of the fig is undoubtedly rendered more certain aud speedy by touching the eye of the fruit with a little oil. This is very commonly practised in many districts of France. "At Argenteuil," says Loudon, "the maturity of the latest figs is hastened by putting a single drop of oil into the eye of each fruit. This is done by a woman who has a phial of oil suspended from her waist, and a piece of hollow rye straw in her hand. This she dips into the oil, and afterwards into the eye of the fig."

We have ourselves frequently tried the experiment of touching the end of the fig with the finger dipped in oil, and have always found the fruits so treated to ripen much more certainly and speedily, and swell to a larger size than those left untouched.

There are forty-two varieties enumerated in the last edition of the London Horticultural Society's Catalogue. Few of these have, however, been introduced into this country, and a very

few sorts will comprise all that is most desirable and excellent in this fruit. The following selection includes those most suitable for our soil and climate. Fruit nearly all ripen in August.

CLASS I.

RED, BROWN, OR PURPLE.

BRUNSWICK. Thomp. Lind. P. Mag.

Madonna,
Hanover,
Brown Hamburgh,
Black Naples,
Clementine,
Bayswater,
Red.
} *ac. to Thomp.*

One of the largest and finest purple figs, well adapted for hardy culture. Fruit of the largest size, pyriform in shape, with an oblique apex. Eye considerably sunk. Stalk short and thick, of a fine violet brown in the sun, dotted with small pale brown specks, and, on the shaded side, pale greenish yellow. Flesh reddish brown, slightly pink near the centre, and somewhat transparent. Flavour rich and excelleut. The only fault of this variety for open air culture is, that it is rather too strong in its growth, not being so easily protected in winter as more dwarfish sorts.

BROWN TURKEY. Thomp.

Brown Italian. *Forsyth.*
Large Blue, *of Lind.*
Italian.
Brown Naples.
Murrey. *Lind.*
Lee's Perpetual.

This is undoubtedly one of the very best for this country, and for open air culture, as it is perhaps the very hardiest, and one of the most regular and abundant bearers. Fruit large, oblong, or pyriform. Skin dark brown, covered with a thick blue bloom. Flesh red, and of very delicious flavour.

BLACK ISCHIA. Thomp. Lind.

Early Forcing. Blue Ischia.

One of the most fruitful sorts, and pretty hardy. Fruit of medium size, roundish, a little flattened at the apex. Skin dark violet, becoming almost black when fully ripe. Flesh deep red, and of very sweet, luscious flavour.

Brown Ischia. Thomp.

Chestnut. *Lind. Mill.* Chestnut-coloured Ischia.

A good variety, with, however, a rather thin skin, rendering it liable to crack or burst open when fully ripe. It is hardy, of good habit, and a very excellent bearer.

Fruit of medium size, roundish obovate. Skin light or chestnut-brown; pulp purple, very sweet and excellent.

Black Genoa. Lind.

The fruit of this fig is long-obovate, that portion next the stalk being very slender. Skin dark purple, becoming nearly black, and covered with a purple bloom. Pulp bright red, flavour excellent. Habit of the tree moderately strong.

Malta. Lind.

Small Brown.

A small, but very rich fig, which will often hang on the tree until it begins to shrivel, and becomes "a fine sweetmeat." Fruit much compressed at the apex, and very much narrowed in towards the stalk. Skin light brown. Pulp pale brown, and of a sweet, rich flavour. Ripens later than the foregoing, about the last of August.

Small Brown Ischia. Lind.

A very hardy sort, which, in tolerably warm places south of Philadelphia, will make a small standard tree in the open air, bearing pretty good crops, that ripen about the first of September. Fruit small, pyriform, with a very short footstalk. Skin light brown. Pulp pale purple, of high flavour. Leaves more entire than those of the common fig.

Violette. Lind. Duh.

A very good sort from the neighbourhood of Paris, where it produces two crops annually. Fruit small, roundish-obovate, flattened at the apex. Skin dark violet. Pulp nearly white, or a little tinged with red on the inside, and of pleasant flavour.

Violette de Bordeaux. Thomp.

Bordeaux. *Lind. Duh.*

A fig which is much cultivated in France, being quite productive, though of inferior flavour to many of the foregoing sorts. Fruit large, pyriform, about three inches long, and two in diameter. Skin deep violet when fully ripe, but at first of a brownish red. Pulp reddish purple, sweet and good.

CLASS II.

FRUIT, WHITE, GREEN, OR YELLOW.

ANGELIQUE. Thomp. Lind. Duh.

Concourelle Blanche. Mélitte.

This little fig is a very abundant bearer, and a pretty hardy sort. Fruit small, obovate. Skin pale greenish yellow, dotted with lighter coloured specks. Pulp white, but only tolerably sweet. It will usually bear two crops.

LARGE WHITE GENOA. Thomp. Lind. Fors.

Fruit large, roundish-obovate. Skin thin, pale yellow. Pulp red, and well flavoured.

MARSEILLES. Thomp. Lind.

White Marseilles. Ford's Seedling.
White Naples. White Standard.
Pocock. Figue Blanche. *Duh.*

A very favourite sort for forcing and raising under glass, but which does not succeed so well as the Brown Turkey, and the Ischias, for open culture. Fruit small, roundish-obovate, slightly ribbed. Skin nearly white, with a little yellowish green remaining. Flesh white, rather dry, but sweet and rich.

NERII. Thomp. Lind.

A fruit rather smaller and longer than the Marseilles, and which, from a mingling of slight acid, is one of the most exquisite in its flavour. Fruit small, roundish-obovate. Skin pale greenish yellow. Pulp red. Flavour at once delicate and rich. This is a very favourite variety, according to Loudon, "the richest fig known in Britain."

PREGUSSATA. Thomp.

A sort lately introduced from the Ionian Isles into England. It is tolerably hardy, quite productive, and succeeds admirably under glass. Fruit of medium size, roundish, a good deal flattened. Skin purplish brown in the shade, dark brown in the sun. Pulp deep red, with a luscious, high flavour. Seeds unusually small. Ripens gradually, in succession.

WHITE ISCHIA. Thomp.

Green Ischia. *Lind. Fors.*

A very small fig, but one of the hardiest of the light coloured ones. Fruit about an inch in diameter, roundish-obovate. Skin pale yellowish green, very thin, and, when fully ripe, the darker coloured pulp appears through it. Pulp purplish, and high flavoured. A moderate grower and good bearer.

CHAPTER XVI.

THE GOOSEBERRY.

Ribes Grossularia, Arb. Brit. *Grossulaceæ*, of botanists. *Grosseiller*, of the French; *Stachelbeerstrauch*, German; *Uva Spino*, Italian; *Grossella*, Spanish.

THE gooseberry of our gardens is a native of the north of Europe, our native species never having been improved by garden culture. This low prickly shrub, which, in its wild state, bears small round or oval fruit, about half an inch in diameter, and weighing one fourth of an ounce, has been so greatly improved by the system of successive reproduction from the seed, and high culture by British gardeners, that it now bears fruit nearly, or quite two inches in diameter, and weighing an ounce and a half. Lancashire, in England, is the meridian of the gooseberry, and to the Lancashire weavers, who seem to have taken it as a hobby, we are indebted for nearly all the surprisingly large sorts of modern date. Their annual shows exhibit this fruit in its greatest perfection, and a GOOSEBERRY BOOK is published at Manchester every year giving a list of all the prize sorts, etc. Indeed the climate of England seems, from its moistness and coolness, more perfectly fitted than any other to the growth of this fruit. On the continent it is considered of little account, and with us, south of Philadelphia, it succeeds but indifferently. In the northern, and especially in the eastern states, however, the gooseberry, on strong soils, where the best sorts are chosen, thrives admirably, and produces very fine crops.

USES. This fruit is in the first place a very important one in its green state, being in high estimation for pies, tarts, and puddings, coming into use earlier than any other. The earliest use made of it appears to have been as a sauce with green goose, whence the name, goose-berry. In its ripe state, it is a very agreeable table fruit, and in this country, following

the season of cherries, it is always most acceptable. Unripe gooseberries are bottled in water for winter use, (placing the bottles nearly filled, a few moments in boiling water, afterwards corking and sealing them, and burying them in a cool cellar, with their necks downward.) As a luxury for the poor, Mr. Loudon considers this the most valuable of all fruits, "since it can be grown in less space, in more unfavourable circumstances, and brought sooner into bearing than any other." In the United States the gooseberry, in humble gardens, is frequently seen in a very wretched state—the fruit poor and small, and covered with mildew. This arises partly from ignorance of a proper mode of cultivation, but chiefly from the sorts grown being very inferior ones, always much liable to this disease.

Propagation. Gooseberry plants should only be raised from cuttings. New varieties are of course raised from seed, but no one here will attempt to do what, under more favourable circumstances, the Lancashire growers can do so much better. In preparing cuttings select the strongest and straightest young shoots of the current year, at the end of October (or very early in the ensuing spring;) cut out all the buds that you intend to go below the ground (to prevent future suckers,) and plant the cuttings in a deep rich soil, on the north side of a fence, or in some shaded border. The cuttings should be inserted six inches deep, and from three to six or eight inches should remain above ground. The soil should be pressed very firmly about the cuttings, and, in the case of autumn planting, it should be examined in the spring, to render it firm again should the cutting have been raised by severe frost. After they have become well rooted—generally in a year's time—they may be transplanted to the borders, where they are finally to remain.

Cultivation. The gooseberry in our climate is very impatient of drought, and we have uniformly found that the best soil for it is a deep strong loam, or at least whatever may be the soil, and it will grow in a great variety, it should always be *deep*—if not naturally so, it should be made deep by trenching and manuring. It is the most common error to plant this fruit shrub under the branches of other trees for the sake of their shade—as it always renders the fruit inferior in size and flavour, and more likely to become mouldy. On the contrary, we would always advise planting in an open border, as, if the soil is sufficiently deep, the plants will not suffer from dryness, and should it unfortunately be of a dry nature, it may be rendered less injurious by covering the ground under the plants with straw or litter. In any case a *rich* soil is necessary, and as the gooseberry is fond of manure a pretty heavy top-dressing should be dug in every year, around bearing plants. For a later crop a few bushels may be set on the north side of a fence or wall.

For the gooseberry, regular and pretty liberal pruning is absolutely necessary. Of course no suckers should be allowed to grow. In November the winter pruning should be performed. The leaves now being off it is easy to see what proportion of the new as well as old wood may be taken away; and we will here remark that it is quite impossible to obtain fine gooseberries here, or any where, without a very thorough thinning out of the branches. As a general rule, it may safely be said that one half of the head, including old and young branches (more especially the former, as the best fruit is borne on the young wood,) should now be taken out, leaving a proper distribution of shoots throughout the bush, the head being sufficiently thinned to admit freely the light and air. An additional pruning is, in England, performed in June, which consists in stopping the growth of long shoots by pinching out the extremities, and thinning out superfluous branches; but if the annual pruning is properly performed, this will not be found necessary, except to obtain fruit of extraordinary size.

The crop should always be well thinned when the berries are about a quarter grown. The gooseberry is scarcely subject to any disease or insect in this country. The *mildew*, which attacks the half grown fruit, is the great pest of those who are unacquainted with its culture. In order to prevent this, it is only necessary—1st, to root up and destroy all inferior kinds subject to mildew; 2nd, to procure from any of the nurseries some of the best and hardiest Lancashire varieties; 3rd, to keep them well manured, and very thoroughly pruned every year.

We do not think this fruit shrub can be said to bear well for more than a half dozen years successively. After that the fruit becomes inferior and requires more care in cultivation. A succession of young plants should, therefore, be kept up by striking some cuttings every season.

Varieties.—The number of these is almost endless, new ones being produced by the prize growers every year. The last edition of the London Horticultural Society's Catalogue enumerates 149 sorts considered worthy of notice, and Lindley's Guide to the Orchard, gives a list of more than seven hundred prize sorts. It is almost needless to say that many of these very closely resemble each other, and that a small number of them will comprise all the most valuable.

The sorts bearing fruit of medium size are generally more highly flavoured than the very large ones. We have selected a sufficient number of the most valuable for all practical purposes.

I. Red Gooseberries.

Boardman's British Crown. Fruit very large, roundish, hairy, handsome and good. Branches spreading.

Champagne. A fine old variety, of very rich flavour. Fruit small, roundish-oblong, surface hairy, pulp clear; branches of very upright growth.

Capper's Top Sawyer. Fruit large, roundish, pale red, hairy; rather late, flavour very good. Branches drooping.

Farrow's Roaring Lion. An immense berry, and hangs late. Fruit oblong, smooth; flavour excellent; branches drooping.

Hartshorn's Lancashire Lad. Fruit large, roundish, dark red, hairy; flavour very good; branches erect.

Keen's Seedling. Fruit of medium size, oblong, hairy, flavour first rate; branches drooping. Early and productive.

Leigh's Rifleman. Fruit large, roundish, hairy; flavour first rate; branches erect.

Melling's Crown Bob. Fruit large, oblong, hairy; flavour first rate; branches spreading.

Miss Bold. Fruit of medium size, roundish, surface downy; flavour excellent; branches spreading.

Red Warrington. Fruit large, roundish-oblong, hairy; flavour first rate; branches drooping.

II. Yellow Gooseberries.

Buerdsill's Duckwing. Fruit large and late, obovate, smooth; flavour good; branches erect.

Capper's Bunker Hill. Fruit large, roundish, smooth; flavour good; branches spreading.

Gorton's Viper. Fruit large, obovate, smooth; flavour good; branches drooping.

Hill's Golden Gourd. Fruit large, oblong, hairy; flavour good; branches drooping.

Part's Golden Fleece. Fruit large, oval, hairy, flavour first rate; branches spreading.

Prophet's Rockwood. Fruit large and early, roundish, hairy; flavour good; branches erect.

Yellow Champagne. Fruit small, roundish, hairy; flavour first rate; branches erect.

Yellow Ball. Fruit of middle size, roundish, smooth; flavour first rate; branches erect.

III. Green Gooseberries.

Colliers' Jolly Angler. Fruit large and late, oblong, downy; flavour first rate; branches erect.

Berry's Greenwood. Fruit large, oblong, smooth; flavour good; branches drooping.

Early Green Hairy, (or *Green Gascoigne.*) Fruit small and early, round, hairy; flavour excellent; branches spreading.

Edward's Jolly Tar. Fruit large, obovate, smooth; flavour first rate; branches drooping.

Glenton Green. Fruit of middle size, oblong, hairy; flavour excellent; branches drooping.

Green Walnut. Fruit middle sized, obovate, smooth; flavour first rate; branches spreading.

Hepburn Green Prolific. Fruit of middle size, roundish, hairy; flavour first rate; branches erect.

Massey's Heart of Oak. Fruit large, oblong, smooth; flavour first rate; branches drooping.

Parkinson's Laurel. Fruit large, obovate, downy; flavour first rate; branches erect.

Pitmaston Green Gage. Fruit small, and hangs long, obovate, smooth; flavour rich and excellent; branches erect.

Wainman's Green Ocean. Fruit very large, oblong, smooth; flavour tolerably good; branches drooping.

IV. White Gooseberries.

Cleworth's White Lion. Fruit large and hangs late, obovate, downy, flavour first rate; branches drooping.

Crompton Sheba Queen. Fruit large, obovate, downy, flavour first rate; branches erect.

Cook's White Eagle. Fruit large, obovate, smooth; flavour first rate; branches erect.

Capper's Bonny Lass. Fruit large, oblong, hairy; flavour good; branches spreading.

Hapley's Lady of the Manor. Fruit large, roundish-oblong, hairy; flavour good; branches erect.

Saunder's Cheshire Lass. Fruit large and very early, oblong, downy; flavour excellent; branches erect.

Woodward's Whitesmith. Fruit large, roundish-oblong, downy; flavour first rate; branches erect.

Wellington's Glory. Fruit large, rather oval; very downy; skin quite thin; flavour excellent; branches erect.

White Honey. Fruit of middle size, roundish-oblong, smooth; flavour excellent; branches erect.

Taylor's Bright Venus. Fruit of middle size, hangs a long time, obovate, hairy; flavour first rate; branches erect.

The following new English varieties are of the largest size.

Red.	*Green.*
London.	Thumper.
Conquering Hero.	Turnout.
Companion.	Weathercock.
Lion's Provider.	General.
Dan's Mistake.	Keepsake.
Napoleon le Grand.	

White.	*Yellow.*
Freedom.	Leader.
Snowdrop.	Drill.
Queen of Trumps.	Catherine.
Lady Leicester.	Gunner.
Eagle.	Peru.
Tally Ho.	Goldfinder.

HOUGHTON'S SEEDLING

Originated with Abel Houghton, Lynn, Mass. A vigorous grower, branches rather slender, very productive, generally free from mildew; a desirable sort. Fruit medium or below roundish, inclining to oval Skin smooth, pale red. Flesh tender, sweet, and very good.

Selection of sorts for a garden:

Red. Red Warrington, Companion, Crown Bob, London, Houghton's Seedling.

Yellow. Leader, Yellow Ball, Catherine, Gunner.

White. Woodward's Whitesmith, Freedom, Taylor's Bright Venus, Tally Ho, Sheba Queen.

Green. Pitmaston Green Gage, Thumper, Jolly Angler, Massey's Heart of Oak, Parkinson's Laurel.

CHAPTER XVII.

THE GRAPE.

Vitis vinifera, L. *Vitaceæ*, of botanists.
Vigne, of the French; *Weintrauben*, German; *Vigna*, Italian; *Vid*, or *Vina*, Spanish.

THE history of the grape is almost as old as that of man. Growing in its highest perfection in Syria and Persia, its luscious fruit and the unrivalled beverage which its fermented juice affords, recommended it to the especial care of the patriarchal tillers of the soil, and vineyards were extensively planted, long before orchards or collections of other fruit trees were at all common.

The grapes of the old world are all varieties of the wine grape, (*Vitis vinifera*,) which, though so long and so universally cultivated and naturalized in all the middle and southern portions of Europe, is not a native of that continent, but came originally from Persia. From the latter country, as civilization advanced westward, this plant accompanied it—first to Egypt, then to

Greece and Sicily, and gradually to Italy, Spain, France, and Britain, to which latter country the Romans carried it about two hundred years after Christ. To America the seeds and plants of the European varieties were brought by numerous emigrants and colonists within the first fifty years after its settlement.

The wild grapes of our own country are quite distinct species from the wine grape of Europe—are usually stronger in their growth, with larger and more entire foliage, and, in their native state, with a peculiar foxy odour or flavour, and more or less hardness of pulp. These traits, however, disappear in process of cultivation, and we have reason to hope that we shall soon obtain, from the wild type, new varieties of high quality, and of superior hardiness and productiveness in this climate.

The grape vine is in all cases a trailing or climbing deciduous shrub, living to a great age,* and, in its native forests, clambering over the tops of the tallest trees. In the deep rich alluvial soils of western America, it is often seen attaining a truly prodigious size, and several have been measured on the banks of the Ohio, the stems of which were three feet in circumference, and the branches two hundred feet long, enwreathing and festooning the tops of huge poplars and sycamores. In a cultivated state, however, it is found that fine flavour, and uniform productiveness, require the plants to be kept pruned within a small compass.

Uses. The grape in its finest varieties, as the Hamburgh and the Muscat, is in flavour hardly surpassed by any other fruit in delicacy and richness, and few or none are more beautiful in the dessert. Dried, it forms the raisin of commerce, the most excellent of all dried fruits, every where esteemed. And wine, the fermented juice, has always been the first of all exhilarating liquors. Some idea of the past consumption of this product may be formed from the fact that more than 500,000,000 imperial gallons have been made in France, in a single year; and as a data to judge of its value, we may add, that, while a great proportion of the *vin ordinaire*, or common wine, is sold at 10 or 12 cents a bottle; on the other hand, particular old and rare vintages of Madeiras or Sherries will not unfrequently command twenty or thirty dollars a gallon.

Soil. The universal experience in all countries has established the fact that a dry and warm soil is the very best for the vine. Where vineyards are cultivated, a limestone soil, or one composed of decaying calcareous rocks, is by far the best; but where, as in most gardens, the vine is raised solely for its fruit, the soil should be highly enriched. The foreign grape will scarcely thrive well here on a heavy soil, though our native

* Pliny gives an account of a vine six hundred years old, and there are said to be vines in Burgundy more than four hundred years old.

varieties grow and bear well on any strong land, but the essence of all that can be said in grape culture respecting soil is that it be dry and light, deep and rich. Frequent top-dressings of well rotted manure should be applied to vines in open borders, and this should every third or fourth year be alternated with a dressing of slaked lime.

PROPAGATION. The grape vine makes roots very freely, and is, therefore, easy of propagation. Branches of the previous or current year's wood bent down any time before mid-summer, and covered with earth, as layers, root very freely, and make bearing plants in a couple of years, or very frequently indeed bear the next season.

But the finer varieties of the vine are almost universally propagated by cuttings, as that is a very simple mode, and an abundance of the cuttings being afforded by the annual trimming of the vines.

When cuttings are to be planted in the open border, a somewhat moist and shaded place should be chosen for this purpose. The cuttings should then be made of the young wood of the previous year's growth, cut into lengths about a foot or eighteen inches long, and having three buds—one near the top, one at the bottom, and the third in the middle. Before planting the cutting pare off its lower end smoothly, close below the buds, and finally, plant it in mellow soil, in a slit made by the spade, pressing the earth firmly about it with the foot.*

The rarer kinds of foreign grapes are usually grown by cuttings of shorter length, consisting only of two buds; and the most successful mode is to plant each cutting in a small pot, and plunge the pots in a slight hotbed, or place the cuttings at once in the mould of the bed itself. In either case they will make strong plants in the same season.

But the most approved way of raising vine plants in pots is that of propagation by *eyes*, which we have fully explained in the first part of this work. This, as it retains the least portion of the old wood, is manifestly the nearest approach to raising a plant from the seed, that most perfect of all modes with respect to the constitution of a plant. In the case of new or rare sorts it offers us the means of multiplying them with the greatest possible rapidity. As the grape usually receives its annual pruning in autumn or winter, the cuttings may be reduced to nearly their proper length, and kept in earth, in the cellar, until the ensuing spring. The hardier sorts may be buried in the open ground.

The foreign and the native grapes are very different in their

* In sandy or dry soils the cuttings may be left longer, and to insure greater success, cover the upper end of the cutting with grafting wax, or something of the kind, to prevent evaporation.

habits, in this climate, and, therefore, must be treated differently. The native sorts, as the Isabella and Catawba, are cultivated with scarcely any further care than training up the branches to poles or a trellis, and are, on this account, highly valuable to the farmer, while the European varieties are of little value in this climate except with especial care, and are, therefore, confined to the garden.

1. *Culture of the Foreign Grape.*

The climate of the temperate portion of this country, so favourable to all other fruits, is unfortunately not so for the foreign grape. This results, perhaps, from its *variability*, the great obstacle being the *mildew*, which, seizing upon the young fruit, prevents its further growth, causes it to crack, and renders it worthless. Unwilling to believe that this was not the fault of bad culture, many intelligent cultivators, and among them men of capital and much practical skill, have attempted vineyard culture, with the foreign sorts, in various sections of the country, under the most favourable circumstances, and have uniformly failed. On the other hand, the very finest grapes are produced under glass, in great quantities, in our first-rate gardens, especially in the neighbourhood of Boston; in the small yards or gardens of our cities, owing to the more uniform state of the atmosphere, the foreign grape thrives pretty well; and, finally, in all gardens of the middle States, the hardier kinds may, under certain modes of culture, be made to bear good fruit.

Without entering into any inquiries respecting the particular way in which the mildew (which is undoubtedly a parasitical plant,) is caused, we will endeavour to state concisely some practical truths, to which our own observation and experience have led us, respecting the hardy culture of the foreign grape.

In the first place, it is well known, to gardeners here, that young and thrifty vines generally bear one or two fair crops of fruit; second, that as the vine becomes older if it is pruned in the common mode, (that is to say the *spurring-in* mode of shortening the side branches, and getting fresh bearing shoots from main branches every year,) it soon bears only mildewed and imperfect fruit; and, finally, that the older and larger the vine, the less likely is it to produce a good crop.

This being the case, it is not difficult to see that, as the vine, like all other trees, is able to resist the attacks of disease or unfavourable climate just in proportion as it is kept in a young and highly vigorous state, it follows if we allow a plant to retain only young and vigorous wood, it must necessarily preserve much of the necessary vigour of constitution. And this is only to be done, so far as regards training, by what is called the *renewal* system.

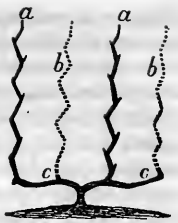


Fig. 91. *Renewal Training.*

The renewal system of training consists in annually providing a fresh supply of young branches from which the bearing shoots are produced, cutting out all the branches that have borne the previous year. Fig. 91 represents a bearing vine treated in this manner, as it would appear in the spring of the year, after having been pruned. In this figure, *a*, represents the two branches of last year's growth trained up for bearing the present year; *b*, the places occupied by the last year's wood, which, having borne, has been cut down to within an inch of the main arm, *c*. The present year, therefore, the two branches, *a*, will throw out side shoots, and bear a good crop, while the young branches will be trained up in the places of *b*, to bear the next year when *a* are in like manner cut down.

This renewal training will usually produce fair fruit, chiefly, as it appears to us, because the ascent and circulation of the sap being mainly carried on through young wood, is vigorous, and the plant is healthful and able to resist the mildew, while, on the contrary, the circulation of the sap is more feeble and tardy, through the more compact and rigid sap vessels of a vine full of old wood.*

The above mode of training is very easily understood, but we may add here for the benefit of the novice; 1st, that vines, in order that they may bear regularly and well, should always be kept within small bounds; 2d, that they should always be trained to a wall, building, or *upright trellis*;† and, 3d, that the leaves should never be pulled off to promote the ripening of the fruit. The ends of the bearing shoots may be *stopped*, (pinched off,) when the fruit is nearly half grown, and this is usually all the summer pruning, that under our bright sun the grape vine properly treated requires.

Following out this hint, that here, the vine only bears well when it is young, or composed mainly of young wood, an intelligent cultivator near us secures every year abundant crops of the Chasselas, by a system of renewal by *layers*. Every year, from his bearing vines, he lays down two or more long and clean shoots of the previous year's growth. These root freely, are allowed to make another season's growth, and then are made to take the place of the old plants, which are taken out; and by this continual system of providing young plants by layers, he always succeeds in obtaining from the same piece of ground fair and excellent grapes.

* See *Hoare on the Grape Vine.*

† And never on an arbour, except for the purposes of shade.

Culture under glass without artificial heat. The great superiority of this fruit when raised under glass, renders a vinery an indispensable feature in every extensive garden. Even without fire-heat grapes may, under our bright sun, be grown admirably; the sudden changes of the weather being guarded against, and the warmth and uniformity of the atmosphere surrounding the vines being secured. In the neighbourhood of Boston, cheap structures of this kind are now very common, and on the North River, even the Muscat of Alexandria and other sorts which are usually thought to require fire-heat, ripen regularly and well, with moderate attention.

A vinery of this kind may be erected so as to cost very little, nearly after the following manner. Its length may be thirty feet; its width sixteen feet; height at the front, two feet; at the back twelve feet. This part of the structure may all be built of wood, taking, for the frame, cedar or locust posts, setting them three and a half feet in the ground, the portion rising above the ground being squared to four or five inches. On these posts, (which are placed six feet apart,) nail, on both sides, matched and grooved planks, one and a quarter inches thick. The space between these planks not occupied by the post, fill in with dry tan, which should be well rammed down. The rafters should be fixed, and from three to four feet apart. The sashes forming the roof, (which are all the glass that will be necessary,) must be in two lengths, lapping in the middle, and arranged with a double groove in the rafters, so that the top and bottom ones may run free of each other. The building will, of course, front the south, and the door may be at either end.

The border for the grapes should be made partly on the inside and partly on the outside of the front wall, so that the roots of the vines may extend through to the open border. A trellis of wire should be fixed to the rafters, about sixteen inches from the glass, on which the vines are to be trained. Early in the spring, the vines, which should be two year old roots, may be planted in the inside border, about a foot from the front wall—one vine below each rafter.

Soil. The border should be thoroughly prepared and pulverized before planting the grapes. Two thirds of mellow sandy loam mixed with one third of a compost formed of well fermented manure, bits of broken charcoal, and a little lime rubbish, forms an excellent soil for the grape in this climate. If the soil of the garden is old, or is not of a proper quality for the basis of the border, it is best to prepare some for this purpose by rotting and reducing beforehand, a quantity of loamy turf from the road sides for this purpose. The depth of the border need not exceed two feet, but if the subsoil is not dry at all seasons, it should be well drained, and filled up half a foot below the border with small stones or brick bats.

Pruning. Decidedly the best mode of pruning for a cold house, or vinery without fire-heat, is what is called the long or renewal mode, which we have already partially explained. Supposing the house to be planted with good young plants, something like the following mode of training and pruning may be adopted. The first season one shoot only is allowed to proceed from each plant, and this, at the end of the first season, is cut down to the second or third eye or bud. The year following two leading shoots are encouraged, the strongest of which is headed or stopped when it has extended a few joints beyond the middle of the house or rafter, and the weaker about half that length. In November these shoots are reduced, the strong one having four or five joints cut from its extremity, and the weaker one to the third eye from its lower end or place of origin. In the third season one leading shoot is laid in from each of these, the stronger one throwing out side shoots on which the fruit is produced, which side shoots are allowed to mature one bunch of grapes each, and are topped at one or two joints above the fruit. No side shoots are allowed to proceed from the weaker shoot, but it is laid in, to produce fruit the ensuing season, so that by the third season after planting, the lower part of the house or rafters is furnished with a crop of fruit proceeding from wood of the preceding year. At next autumn pruning, the longest of these main shoots is shortened about eighteen inches from the top of the rafter, and the next in strength to about the middle of the rafter, and all the spurs which had borne fruit are removed. Each vine is now furnished with two shoots of bearing wood, a part of old barren wood which has already produced fruit, and a spur near the bottom for producing a young shoot for the following year. In the fourth summer a full crop is produced, both in the lower and upper part of the house, the longer or oldest shoot producing fruit on the upper part of its length, and the shorter on its whole length; from this last, a leading shoot is laid in, and another to succeed it is produced from the spur near the bottom. At the next autumn pruning, the oldest or longest shoot, which has now reached the top of the house, is entirely cut out and removed, and replaced by that which was next in succession to it, and this in its turn is also cut out and replaced by that immediately behind it, a succession of a yearly shoot being obtained from the lower part of the old stem. (*McIntosh.*) This is decidedly the most successful mode for a vinery without heat, producing abundant and fair crops of fruit. Hoare, who is one of the most experienced and ingenious writers on the grape, strongly recommends it, and suggests that "the old wood of a vine, or that which has previously produced fruit, is not only of no further use, but is a positive injury to the fertility of the plant. The truth of this remark depends on the fact that every branch of a vine which produces little or no

foliage, appropriates for its own support a portion of the juices of the plant that is generated by those branches that do produce foliage."

Routine of culture. In a vinery without heat this is comparatively simple. As soon as the vines commence swelling their buds in the spring, they should be carefully washed with mild soap suds, to free them from any insects, soften the wood, and assist the buds to swell regularly. At least three or four times every week, they should be well syringed with water, which, when the weather is cool, should always be done in the morning. And every day the vine border should be duly supplied with water. During the time when the vines are in blossom, and while the fruit is setting, all sprinkling or syringing over the leaves must be suspended, and the house should be kept a little more closed and warm than usual, and should any indications of mildew appear on any of the branches it may at once be checked by dusting them with flower of sulphur. Air must be given liberally every day when the temperature rises in the house, beginning by sliding down the top sashes a little in the morning, more at mid-day, and then gradually closing them in the same manner. To guard against the sudden changes of temperature out of doors, and at the same time to keep up as moist and warm a state of the atmosphere within the vinery as is consistent with pretty free admission of the air during sunshine, is the great object of culture in a vinery of this kind.

Thinning the fruit is a very necessary practice in all vineries—and on it depends greatly the flavour, as well as the fine appearance and size of the berries and bunches. The first thinning usually consists in taking off all superfluous blossom buds, leaving only one bunch in the large sorts or two in the small ones to each bearing shoot. The next thinning takes place when the berries are set and well formed, and is performed with a pair of scissors, taking care not to touch the berries that are left to grow. All this time, one third of the berries should be taken off with the point of the scissors, especially those in the centre of the cluster. This allows the remainder to swell to double the size, and also to form larger bunches than would otherwise be produced. Where the bunches are large, the shoulders should be suspended from the trellis by threads, in order to take off part of the weight from the stem of the vine. The last thinning, which is done chiefly to regulate the form of the bunch, is done by many gardeners, just before the fruit begins to colour—but it is scarcely needed if the previous thinning of the berries has been thoroughly done.

The regular autumnal pruning is best performed about the middle of November. The vines should then be taken down, laid down on the border, and covered for the winter with a thick layer of straw, or a slight covering of earth.

CULTURE UNDER GLASS, WITH FIRE-HEAT. As the foreign grape is almost the only fruit of temperate climates, which cannot be raised in perfection in the open air in this climate, we shall give some concise directions for its culture in vineries with artificial heat. Those who only know this fruit as the Chasselas or Sweetwater appears, when grown in the open air, have little idea of the exceeding lusciousness, high flavour, size and beauty of such varieties as the Black Hamburgh or Muscat of Alexandria, when well grown in a first rate vinery. By the aid of artificial heat, which, in this climate, is, after all, chiefly required in the spring and autumn, and to counteract any sudden cold changes of atmosphere, this most admirable fruit may easily be produced for the dessert, from May till December. Indeed by vineries constructed in divisions, in some of which vines are forced and in others retarded, some gentlemen near Boston, have grapes nearly every month in the year.

Construction of the vinery. The vinery with fire-heat may be built of wood, and in the same simple manner as just described, with the addition of a flue above the surface of the ground, running close along the end, two feet from the front wall, and about a foot from the back wall, and returning into a chimney in the back wall over the furnace.

For the sake of permanence, however, a vinery of this kind is usually built of brick; the ends and front wall eight inches thick; the back wall a foot thick—or eight inches with occasional abutments to increase its strength. In fig. 92 (I) is shown a simple plan of a vinery of this kind. In this the surface of the ground is shown at *a*, below which, the foundation walls are sunk three feet. Above the surface the front wall *b*, rises two feet, the back wall *c*, twelve feet, and the width of the house is fourteen feet. On these walls are placed the rafters, from three to four feet distant, with the sashes in two lengths.

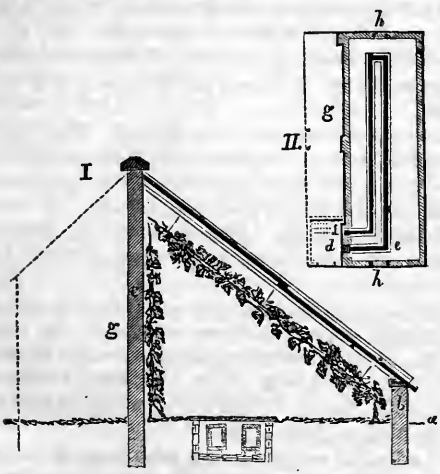


Fig. 92. *Plan and section of a vinery, with fire-heat.*

In the present example the flues are kept out of the way, and the space clear, by placing them in a square walled space, di-

rectly under the walk; the walk itself being formed by an open grating or lattice, through which the heat rises freely. The arrangement of the flue will be better understood by referring to the ground plan (II.) In this the furnace is indicated at *d*, in the back wall;* from this the flue rises gradually to *e*, whence it continues nearly the length of the house, and returning enters the chimney at *f*. For the convenience of shelter, firing, etc., it is usual to have a *back shed*, *g*, behind the back wall. In this shed may be a bin for wood or coals, and a sunk area (shown in the dotted lines around *d*, *f*,) with steps to descend to the furnace and ash-pit.† There are two doors, *h*, in the vinery at either end of the walk.

The border should be thoroughly prepared previously to planting the vines, by excavating it two feet deep and filling it up with suitable compost. This is best formed of one half loamy turf, well rotted by having been previously laid up in heaps, (or fresh and pure loamy soil from an old pasture or common;) one third thoroughly fermented horse or cow manure, which has laid in a turf-covered heap for three months; and one-third broken pieces of charcoal and old lime rubbish. The whole to be thoroughly mixed together before planting the vines.

The vines themselves should always be planted in a border prepared inside of the house, and in order to give the vines that extent of soil which is necessary for them, the best cultivators make an additional border twelve or fourteen feet wide outside, in front of the vinery. By building the foundation of the front wall on piers within a couple of inches of the surface, and supporting the wall above the surface on slabs of stone reaching from pier to pier, the roots of the vines easily penetrate to the border on the outside.

The vines should be planted early in the spring. Two year old plants are preferable, and they may be set eighteen inches from the front wall—one below each rafter, or, if the latter are over three feet apart, one also in the intermediate space.

The pruning and training of the vines we have already described. The *renewal* system of pruning we consider the best

* This furnace should be placed two feet below the level of the flue at *e*, in order to secure a draught, after which it may be carried quite level till it enters the chimney. An air chamber may be formed round it, with a register to admit heated air to the house when necessary. A furnace fourteen inches square and deep, with an ash-pit below, in which anthracite coal is burned, will be found a very easy and perfect mode of heating a house of this width, and thirty feet long.

† The most perfect vinery that we have seen in this country is one of two hundred feet long at the country residence of Horace Gray, Esq., Newtown, near Boston. It is built of wood, with a curved span roof, after a plan of Mr. Gray's which seems to us to combine fitness and beauty in an unusual degree.

in all cases. The *spur* system is, however, practised by many gardeners, with more or less success. This, as most of our readers are aware, consists in allowing a single shoot to extend from each root to the length of the rafters; from the sides of this stem are produced the bearing shoots every year; and every autumn these spurs are shortened back, leaving only one bud at the bottom of each, which in its turn becomes the bearing shoot, and is again cut back the next season. The fruit is abundantly produced, and of good flavour, but the bunches are neither so large nor fair, nor do the vines continue so long in a productive and healthy state as when the wood is annually renewed.

The essential points in pruning and training the vine, whatever mode be adopted, according to Loudon, "are to shorten the wood to such an extent that no more leaves shall be produced than can be fully exposed to the light; to stop all shoots produced in the summer that are not likely to be required in the winter pruning, at two or three joints, or at the first large healthy leaf from the stem where they originate; and to stop all shoots bearing bunches at one joint, or at most two, beyond the bunch. As shoots which are stopped, generally push a second time from the terminal bud, the secondary shoots thus produced should be stopped at one joint. And if at that joint they push also, then a third stopping must take place at one joint, and so on as long as the last terminal bud continues to break. Bearing these points in mind, nothing can be more simple than the pruning and training of the vine."

When early forcing of the vines is commenced, the heat should be applied very gently, for the first few days, and afterwards very gradually increased. Sixty degrees of Fahrenheit's thermometer may be the maximum, till the buds are all nearly expanded. When the leaves are expanded sixty-five may be the maximum and fifty-five the minimum temperature. When the vines are in blossom, seventy-five or eighty, in mid-day, with the solar heat should be allowed, with an abundance of air, and somewhat about this should be the average of mid-day temperature. But, as by far the best way of imparting information as to the routine of vine culture under glass is to present a precise account of a successful practice, we give here the diary of O. Johnson, Esq., of Lynn, Mass., as reported by him in Hovey's Magazine. Mr. Johnson is a very successful amateur cultivator, and we prefer to give his diary rather than that of a professional gardener, because we consider it as likely to be more instructive to the beginner in those little points which most professional men are likely to take for granted as being commonly known. We may premise here that the vines were planted out in the border in May, 1835; they were then one year old, in pots. In 1836 and 1837, they were headed down.

In 1838 they bore a few bunches of grapes, and made fine wood for the following year, when the date of the diary commences.

February.	*Feb.* 1839. *Temperature.* Morn.	Noon.	Night.	Diary of the Vinery.
13				Commenced fire heat in the vinery. [The thermometrical observations are taken at 6 o'clock in the morning, at noon, and 10 o'clock at night.]
14	50	80	60	Placed horse manure in the house to warm the border. Washed the house. Took up the vines, (which had been covered to protect them from the frost,) and washed them with warm soap suds; raised as much moisture as possible. Weather moderate and cloudy.
15	50	70	58	Weather quite moderate and thawy. Sleet.
16	48	60	55	Covered inside border with sand for sprinkling. Thaw. Whitewashed the vinery.
17	50	55	58	Earthen pans on the flues kept filled with water, but syringing suspended on account of the moisture in the atmosphere, it having been damp for three days. Cloudy.
18	51	67	60	Washed vines with soap suds. Weather moderate: a slight snow last night.
19	40	75	60	Pans kept full of water for the sake of steam, and vines syringed *twice* a day in sunny weather. Weather changed suddenly last night; cold, and temperature fell 10° below minimum point.
20	57	70	61	A Sweetwater vine in a pot, taken from the cellar on the 18th, and pruned at that time, is now bleeding profusely. At this season of the year, in order to economize with fuel, the furnace should be managed carefully. We found it a good plan about 10 o'clock at night to close the door of the ash-pit and furnace, and push the damper in the chimney as far in as possible. No air is then admitted, except through the crevices of the iron work. The thermometer fell only 4° during the night. Watered vines with soap suds.
21	57	75	61	The last seven days have been very mild for the season: to-day appears like an April day.
22	57	64	63	Weather became cold during the night.
24	60	63	64	Weather cloudy and thawy for the last three days.

February.	*Feb. March* 1839. *Temperature.* Morn.	Noon.	Night.	Diary of the Vinery.
				The floor of the vinery kept constantly damp, and the flues watered twice at night.
25	57	64	64	Rainy and thaw.
26	59	70	65	Muscat of Alexandria vine bleeding at the buds. Weather clear and rather cool.
27	59	64	64	Muscat vine continuing to bleed excessively, and finding all attempts to stop it unsuccessful, we hastily concluded to prune it down beyond the bleeding bud, and cover the wound with bladder of triple thickness (two very fast:) this, it was supposed, would stop it; but in a few moments the sap re-appeared, forcing its way through other buds, and even through the smooth bark in many places. The buds on the Sweetwater vines in pots began to swell. Rain last night; dull weather during the day: snow nearly gone.
28	58	75	65	Morning fine; afternoon cloudy. When fire is at a red heat, the damper and furnace door are closed to keep up the heat.
March.				
1	56	80	71	Bright morning; weather cool.
2	64	70	68	Quite warm and pleasant for the season.
3	58	64	64	Weather changed last evening suddenly; a cold snow storm set in to-day. Afternoon clear.
4	62	80	63	Buds of some black Hamburg vines beginning to swell. Dug up the inside border, and, notwithstanding all precautions, destroyed a few of the grape roots, which were within three inches of the surface. From this circumstance, we have determined not to disturb the border outside, but merely to loosen two inches below the surface: we are satisfied that the vines have been injured by deep digging the borders. Cold severe; last night temperature 2° below 0.
5	51	70	68	The cold very severe. The sudden changes render it almost impossible to keep a regular temperature in the house, which should not stand (at this stage of forcing) below 60°. The house having originally been intended for a grapery without fire heat, it is not well adapted to forcing.
6	60	73	68	Weather cool and pleasant.
7	62	75	68	Buds of the vine in pot breaking.

March	*March April* 1839. *Tem'ture.* Morn.	Noon.	Night.	Diary of the Vinery.
8	59	74	64	
9	60	75	63	Buds of Hamburgs breaking. Snow last night.
10	60	73	63	
11	50	75	60	Quite cold last night. Windy.
12	54	76	62	Buds of Hamburgs mostly breaking. Owing to the changeable weather, there is some fear that there has been too much heat, as a few of the shoots appear weak. Plenty of air has been given daily.
13	60	75	64	Buds of Muscat of Alexandria breaking. Fruit buds appear on the Hamburgs.
14	60	74	60	
15	54	70	64	
16	60	75	61	
17	60	80	61	The buds have broken remarkably fine: almost every bud throughout the house is opening. Longest shoot on Hamburg was four inches at noon. The Muscat, which broke first last year, is now the most backward. Quere—Is it not owing to excessive bleeding?
18	63	63	64	
19	62	60	63	
20	62	65	64	
21	62	62	66	
22	60	60	66	
23	62		66	After this period, the thermometer was observed
24	60		69	only at morning and at night. The temperature ranging from 62° to 80° during the remainder of the day, with an abundance of air in good weather.
25	60		65	
26	62		63	
27	63		64	
28	61		67	
29	64		67	
30	66		68	
31	62		70	The last six days cloudy; wind east; quite cold last night for the season.
April. 1	60		72	
2	62		71	

April 1839. Temperature.			Diary of the Vinery.
April.	Morn.	Night.	
3	66	70	
4	64	74	
5	65	73	
6	66	76	Topped the fruit-bearing shoots one joint above the fruit, and when the lower shoots appear weak, top the leading shoot of the vine.
7	74	66	
8	62	72	Discontinued syringing the vines.
9	66	74	
10	64	73	
11	70	73	A few clusters of flowers began to open on two vines.
12	73	78	
13	66	80	
14	68	76	The last three days wind north-east, with much rain; to-day sleet and rain. Grapes blooming beautifully: keep up a high temperature with moisture, when the weather is cloudy during the day.
15	67	77	
16	72	77	Floor sprinkled to create a fine steam.
17	77	74	
18	66	78	A few clusters of flowers open on the Muscat of Alexandria.
19	73	77	
20	70	76	
21	64	78	Temperature kept up. The thermometer should not be allowed, at this stage of the growth of the vines, to fall below 75°; but owing to the faulty construction of the house, it has been almost impossible to keep up a regular heat.
22	71	78	The grapes on the black Hamburg vines are mostly set; those at the top of the house as large as small peas, while those below are just out of bloom. Many of the bunches show great promise, and the vines look remarkably vigorous and strong, with the exception of one vine, next the partition glass, which made the largest wood last season, apparently fully ripe and little pith; notwithstanding these favourable promises, it showed little fruit, and the shoots are small and weak.
23	69	81	Cut out about fifty bunches in thinning.
24	77	75	

April 1839.	Temperature.		Diary of the Vinery.
April.	Morn.	Night.	
25	74	78	
26	77	63	
27	71	80	
28	73	75	
29	70	70	
30	70	70	Commenced syringing again, twice a day, in fine weather. Moisture is also plentifully supplied by keeping the pans well filled with water.
May.			
1	70	70	
2	68	66	
3	66	68	Much rain during the last week: have kept a brisk fire in the day, and admitted air. The vines look finely. Continue thinning and shouldering the bunches, after cutting out about one half their number. [By shouldering is understood tying up the shoulders on the large clusters to the trellis, so that they may not press upon the lower part of the bunch.]
4	68	70	
5	60	77	
6	61	62	
7	59	66	
8	57	73	Plenty of air admitted.
9	70	68	
10	58	62	
11	56	54	Grapes now swelling off finely.
12	56	71	Abundance of moisture kept up.
13	65	66	
14	63	73	A fine rain to-day. The month has been rather cool; several nights the past week the earth has frozen slightly. The grapes are now swelling finely. Continue to thin the fruit daily.
15	65	68	The process of thinning the berries continued, taking out some almost every day, and always the smallest.
16	69	70	
17	68	61	
18	58	71	
19	68	74	Abundance of air given in fine weather.
20	68	69	
21	62	69	
22	70	76	
23	66	72	
24	69	72	Next year's bearing wood carefully laid in.

May 1839. Temperature.			Diary of the Vinery.
May.	Morn.	Night.	
25	70	72	
26	68	72	
27	72	74	
28	74	72	
29	73	72	
30	70	70	
31	62	68	The month of May has been, as a whole, unfavourable for the grape. Much rainy and dull weather: we have been obliged to light fires every night, and occasionally in the day. The grapes have been often looked over and thinned, yet there is no doubt the scissors have been used too sparingly
June.			
1	69	68	
2	66	66	
3	66	64	
4	66	68	All lateral branches cut clean out.
5	61	68	
6	64	76	
7	60	70	Bunches supported by tying to the trellis.
8	61	70	
9	62	70	
10	64	69	The grapes have now completed their stoning process, and a few near the furnace swelling off. No mildew, or disease of any kind, has yet been discovered, and the vines generally have the most healthy and vigorous appearance. The weather has been dull and disagreeable, which has rendered fires necessary.
11	64	64	
12	55	69	
13	66	66	A few of the black Hamburgs and Zinfindals, near the flue, perceived to be changing colour. Weather quite unfavourable; fires at night.
14	65	71	
15	71	62	Syringing now discontinued.
16	61	68	
17	58	66	
18	50	66	The month, thus far, has been remarkable for high
19	61	60	winds, which have injured many plants.
20	56	68	
21	66	65	
22	60	67	
23	64	62	The grapes are now swelling finely. Those at the

June 1839. Temperature.			Diary of the Vinery.
June.	Morn.	Noon.	
			western flue mostly coloured; also the Zinfindal next. The second vine from the partition, having to sustain the heaviest crop, is rather backward, and we fear some of the berries may shrink: having left different quantities on vines of the same apparent strength, we shall be able to ascertain their powers of maturation.
			After this period the thermometrical observations were discontinued; as the crop was now beginning to colour, and the weather generally warm, abundance of air is admitted in all fine weather.
26	—	—	Bunches of the Zinfindal near the furnace, and at the top of the house, are now perfectly coloured, and apparently ripe. Ceased making fires.
29	—	—	A little air is admitted at night. Weather delightful.

July 4.—Cut six bunches of Zinfindal grapes; the largest a pound and a half; weight of the whole five pounds and a quarter.

6*th.*—Exhibited Zinfindal grapes at the Massachusetts Horticultural Society.

13*th.*—Exhibited Black Hamburgh grapes at the Massachusetts Horticultural Society's room.

15*th.*—A few bunches of the Muscat of Alexandria are now ripe; the flavour exceedingly fine.

20*th.*—Continued to cut Zinfindal grapes.

22*d.*—The ripening of all the grapes being now completed, we have not deemed it necessary to continue the diary. In the vinery we shall cut about two hundred and thirty pounds of grapes from nine vines, [being about twenty-five pounds to each.] The Hamburghs average nearly one pound and a quarter to the bunch throughout.

In the cold house, separated from the vinery by the partition, a little mildew was perceived. By dusting sulphur on the infected bushes, the mischief is instantly checked. Most of the cultivators with whom we have conversed complain grievously of mildew this season, and some have lost part of their crops by inattention on its first appearance.

Aug. 10*th.*—Again exhibited some of the Hamburgh grapes at the Massachusetts Horticultural Society's room. One fine bunch weighed two and a half pounds, and a beautiful cluster

of Muscat of Alexandria one pound. Some of the berries of the former measured three inches in circumference, and the latter three and a quarter by three and three quarter inches.

Another season we intend to use a larger quantity of soap suds on the grape border. Have not paid sufficient attention to the watering of the border, and the inside, especially, must have suffered. Another fault to be removed next year is, to tie up all the projecting grapilons as well as the shoulders, which would allow the grapes to swell without crowding.

The grapes in the cold house are swelling finely. The bunches were thinned much more severely than in the vinery, but, notwithstanding this, they are all filled up, and many are too crowded. The berries are also larger than the grapes in the vinery, though none of the clusters have attained the same size.

Much has been written upon the subject of the *shrivelling* or shrinking of grapes: none of the clusters in the vinery were affected; but in the cold house, some shrivelling was perceived on a few bunches. We are inclined to believe that the moisture given after the grapes begin to colour, and want of sufficient air, are the causes.

To insure a good crop of grapes, we are satisfied that they must have—*plenty of heat—plenty of air—plenty of moisture—severe thinning of bunches*—and *severe thinning of berries.* The vines, also, must be pruned often, and kept free: the wood *never* crowded. Great attention must be paid to the airing of the house, which must be done gradually, that there may be at no time a *sudden* change in the temperature.

With such attention, and the prerequisite of a rich border, on a dry subsoil, good crops of fine grapes are always to be obtained. The vines require much moisture until they have completed their last swell, when the moisture should be withdrawn."

Insects and diseases. When properly grown under glass, the grape is a very vigorous plant, liable to few diseases. The bleeding which often happens at the commencement of growth, usually ceases without doing harm, when the foliage begins to expand. If excessive, it may be stopped by a mixture of three parts cheese parings and one part lime, applied to the wound. The red-spider which sometimes infests vineries kept at a high temperature, is usually destroyed by coating over the flues with a wash of quick lime and sulphur, after which, the house must be kept closed for half a day. The smaller insects which occasionally prey on the young shoots, are easily kept down by syringing the parts affected, with a solution of whale oil soap.

Varieties. There are in the catalogue a vast number of names of grapes, many of which belong to the same fruit. But there are really only twenty or thirty varieties which are at all

worthy of cultivation in gardens. Indeed, the most experienced gardeners are satisfied with half a dozen of the best sorts for their vineries, and the sorts universally admired are the Black Hamburgh, Black Prince, White Muscadine, and Muscat of Alexandria. We will describe all the finest foreign grapes that have been introduced, and for the sake of simplifying their arrangement, shall divide them into three classes; 1st, those with dark red, purple or black berries; 2d, those with white or yellow berries; 3d, those with light red, rose-coloured, gray, or striped berries.

CLASS I.

GRAPES WITH DARK RED, PURPLE OR BLACK BERRIES.

1. Black Cluster. Thomp.

Black Morillon.	*Lind.*	Morillon noir.	*of the French.*
Auverne.	*Miller.*	Franc Pineau.	
Auverna.		Auvernes Rouge,	
Pineau.		Vrai Auvèrnas.	
True Burgundy.		Raisin de Bourgne.	
Small Black Cluster.	*Speechly.*	Burgunder.	*of the Germans.*
Black Burgundy.		Rother.	
Early Black.		Schwarzer.	

This excellent hardy grape is the true Burgundy grape so highly valued for wine in France. It is readily distinguished from Miller's Burgundy, by the absence of the down on its leaves, which peculiarly distinguishes that sort. The fruit is very sweet and excellent, and the hardiness of the vine renders it one of the best varieties for the open air in this climate.

Bunches small, compact, (i.e. berries closely set). Berries middle sized, roundish-oval. Skin deep black. Juice sweet and good. Ripens in the open air about the 20th of September. Thompson gives more than 40 synonymes to this grape.

2. Black Frontignan. Thomp.

Muscat Noir.	*ac. to Thomp.*
Sir William Romley's Black.	
Muscat Noir Ordinaire.	
Purple Frontignan.	
Black Frontignac.	
Purple Constantia.	
Black Constantia (*of some*).	
Bourdales des Hautes Pyrénées.	
Muscat Noir de Jura.	

An excellent grape for the vinery, originally from the town of Frontignan, in France, where it and other similar sorts are largely cultivated for making the Muscadine or Frontignan wine.

Bunches rather long. Berries of medium size, round, quite black. Skin thin, flavour musky and rich. Ripens in October. A good bearer.

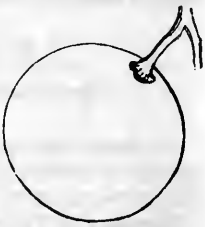
The BLUE FRONTIGNAN, (*Violet Frontignan* and *Black Contantion*, of some,) is rather inferior to the above, having only a slightly musky flavour; the bunches are more compact, the berries not quite round, purplish, with a thick skin.

3. BLACK HAMBURGH. Thomp. Lind. Speechly.

Warner's Black Hamburgh.	Frankenthaler.	*of various European gardens. ac. to Thomp.*
Purple Hamburgh.	Frankenthaler Gros Noir.	
Red Hamburgh.	Trollinger.	
Brown Hamburgh.	Blue Trollinger.	
Dutch Hamburgh.	Troller.	
Victoria.	Welscher.	
Salisbury Violet.	Fleisch Traube.	
Hampton Court Vine.	Hudler.	
Valentine's.	Languedoc.	
Gibaralter.	Mohrendutte.	
Frankendale.	Weissholziger Trollinger.	

The Black Hamburgh has long been considered the first of black grapes for the vinery, but it will very rarely perfect its fruit out of doors. Its very large size and most luscious flavour render it universally esteemed.

Bunches large (about nine inches deep), and mostly with two shoulders, making it broad at the top. Berries very large, (fig. 93,) roundish, slightly inclining to oval. Skin rather thick, deep brownish purple, becoming nearly black at full maturity. Flavour very sugary and rich. A good and regular bearer.



Black Hamburgh.

WILMOT'S NEW BLACK HAMBURGH is a recent variety which is said to bear larger and handsomer fruit.

4. BLACK PRINCE. Lind. Thomp.

Alicant.	Sir A. Pytches' Black.	*ac. to Thomp.*
Black Spanish.	Pocock's Damascus.	
Black Valentia.	Cambridge Botanic Garden.	
Black Portugal.	Steward's Black Prince.	
Boston.	Black Lisbon.	

The Black Prince is very highly esteemed. It is hardier than the Black Hamburgh, ripening very well here in good situations in the open air, and bearing profusely, with the easiest culture, in the vinery.

Bunches long and not generally shouldered, berries large, rather thinly set, oval. Skin thick, black, covered with a thick blue bloom. Flavour first rate—sweet and excellent.

5. Black Lombardy. Lind. Thomp.

West's St. Peters. Poonah.
Money's. Raisin des Carmes.
Raisin de Cuba.

Bunches large and long, with shoulders. Berries large, roundish-oval. Skin thin, very black at maturity. Flavour very rich and sugary. The leaves are rather small, and turn purple as the fruit ripens. Thompson considers this synonymous with the Poonah grape introduced by Sir Joseph Banks, from Bombay. It requires a pretty high temperature, and is then a great bearer.

6. Black Morocco. Thomp.

Le Cœur. *Lind.* Ansell's Large Oval Black.
Black Muscadel. Raisin d'Espagne.

A large and showy grape, ripening late, but requiring a good deal of heat. The blossoms are a little imperfect, and require to be fertilized with those of the Black Hamburgh, or some other hardy sort.

Bunches large; berries very large, oval; skin thick, dark red, flavour tolerably sweet and rich.

7. Black Saint Peter's. Thomp.

Saint Peter's. *Lind. Speechly.* Black Palestine.
Oldaker's West's St. Peter's.

A capital variety, ripening quite late, and which may be kept on the vines if it is allowed to ripen in a cool house until winter. This is one of the best sorts for a vinery without fire-heat.

Bunches of pretty good size, rather loose. Berries rather large, round. Skin thin and black. Flavour delicate, sweet, and excellent.

8. Black Muscat of Alexandria. Thomp.

Red Muscat of Alexandria. *Lind.*
Red Frontinac of Jerusalem.

Bunches large, and shouldered. Berries large, oval, skin thick, of a reddish colour, becoming black at maturity. Flesh quite firm, with a rich musky flavour. Requires a vinery with fire-heat.

9. Black Tripoli. Thomp.

Black Grape from Tripoli. *Lind. Speech.*

This grape, which we have not yet seen in fruit, is said to be

a large and very excellent one, ripening late, and well worthy of a place in the vinery. It requires some fire-heat.

Bunches of medium size, shouldered, rather loose. Berries large, round, often slightly flattened. Stones quite small. Skin thin, purplish black, slightly covered with bloom. Flesh tender and sweet, with a very high flavoured, rich juice.

10. Black Muscadine. Lind. Thomp.

Black Chasselas. Chasselas Noir.

A pretty good black grape, scarcely succeeding well, however, in the open air, and inferior to other sorts for the vinery.

Bunches of medium size, compact. Berries roundish-oval. Skin thick, black, overspread with a blue bloom. Juice sweet, and of pretty good flavour

11. Black Sweetwater. Thomp. Lind.

Water Zoet Noir.

Bunches small, compact. Berries small, round. Skin thin, with a sweet and pleasant juice. A second rate, but rather hardy sort.

12. Early Black July. Thomp. Lind.

July Grape.
Madeline.
Madeline Noir.
Raisin précoce. *Poutéau.*
Morillon Hâtif. *O. Duh.*
De St. Jean.
Schwarzer Frühzeitiger.
Burguider.
August Traube.
Jacobs straube.
} *of the Germans.*

The earliest of grapes, and chiefly valued for the dessert on that account. In the open air it ripens, here, the last of July, or early in August. The leaves are rather small, and light green above and beneath.

Bunches small and compact. Berries small, quite round. Skin thick, black, covered with a blue bloom. Flavour moderately sweet, but not rich or perfumed.

13. Esperione. Thomp. Lind.

Turner's Black. Hardy Blue Windsor.
Cumberland Lodge.

The Esperione is a hardy, luxuriant, and prolific grape, growing as well in the open air as the Muscadine, and even better in many situations. It is yet very rare with us, but merits more general cultivation.

Bunches large, shouldered, like the Black Hamburgh in size. Berries round, or occasionally flattened, and often indented with a groove. Skin thick, dark purple, powdered with a thick blue

bloom. Flesh adheres to the skin, of a pleasant, sprightly flavour, not very rich.

14. Fintindo.

This grape is of Italian origin, brought to notice by M. De Bevay, of Vilvord, who received it of Major Esperin, and is said to have been discovered by the French army in Naples.

Its growth is vigorous. Peduncle very stout. Bunch large, compact, and shouldered. Berries of the largest size, nearly round, slightly oval. Skin dark violet. Flesh abounds in a sugary juice, and has a peculiarly pleasant aroma. It has a resemblance to the Black Hamburgh, but is considerably earlier. (Al Pom.)

15. Miller's Burgundy. Lind. Thomp. Speechly.

Miller Grape.	Müller.	*of European gardens.*
Le Meunier.	Mullevrebe.	
Morillon Taconné.	Morone Farinaccio.	
Fromenté.	Pulverulenta.	
Aleatica du Po.	Farineux noir.	
Sauvignien noir.	Noirin.	

A favourite variety, long known and cultivated in all parts of the world as a hardy grape for wine and table use. It ripens pretty well in the open air, and is readily known by the dense covering of *cottony down* which lines both sides of the leaves, whence the name *miller's* grape.

Bunches short, thick, and compact. Berries roundish-oval, very closely set together. Skin thin, black, with a blue bloom. Flesh tender, abounding with a sweet, high flavoured juice. Each berry contains two small seeds.

16. Schiras.

A seedling raised by Leclerc, and, according to M. Vibert, it is, of all the large berried black grapes, the one which ripens the earliest, arriving at maturity nearly as early as the Chasselas, and nearly a month earlier than the Black Hamburgh. It is an important acquisition as a table grape. It is a sturdy, vigorous grower. Leaves large, generally three-lobed, very downy beneath and slightly so on the upper surface.

Bunch long, loose, and shouldered. Berries irregular in size, elongated, oval in form. Skin reddish-violet, thickly covered with bloom. Flesh juicy, crisp, with a particularly sweet, delicious aromatic flavour. (Al Pom.)

CLASS II.

GRAPES WITH WHITE OR YELLOW BERRIES.

17. Ciotat. Thomp. Lind. Duh.

Parsley-leaved. White Parsley-leaved.
Parsley-leaved Muscadine. Malmsey Muscadine.
Raisin d'Autriche.

The Parsley-leaved grape, as its name denotes, is remarkable for its very deeply divided leaves, quite unlike those of any other sort. It succeeds very well with us in the open air, and may therefore be considered a valuable sort, but it is greatly superior in flavour when grown under glass.

Bunches of middle size, long, rather loose. Berries round. Skin thin, white, with a sweet and pleasant, but not rich flavoured juice.

There is a variety of this grape with red fruit.

16. Chasselas Musqué. Thomp. Duh.

Musk Chasselas. Le Cour.

A very delicious grape, the highest flavoured Chasselas, having much of the flavour of the Muscat of Alexandria.

Bunches of medium size, long and rather loose. Berries middle size, round. Skin thin, yellowish white. Flesh tender, with an abundant juice, of a rich musky flavour. Leaves smaller and deeper green than those of the Sweetwater or Muscadine.

17. Charlsworth Tokay. Thomp.

A new variety very recently received from England, reputed to be of superiour quality.

Bunches long, compact. Berries large, oval. Skin thick, white. Flavour rich and excellent, with a Muscat perfume.

18. Early White Malvasia. Thomp.

Morna Chasselas. Mornair blanc. } *of the French.*
Early Chasselas. Le Melier. }
Grove End Sweet Water. Melier blanc. }
White Melier. Blanc de Bonneuil. }

A nice early grape, and a good bearer, which is in fact only an earlier variety of the Chasselas. It bears very well in the open air.

Bunches in size and form, much like those of the white Chas-

selas or Royal Muscadine. Berries round, yellowish white. Skin thin. Flesh sweet, juicy, and agreeable in flavour. Ripens in August. The leaves are pale green on the upper side, slightly downy below, cut into five, rather deep lobes.

19. Pitmaston White Cluster.

A pretty hardy grape, raised in Pitmaston, England, from the Black Cluster, ripening rather earlier than the Sweetwater, of good quality, and well deserving a place where the foreign grapes are cultivated in the open air.

Bunches of medium size, compact and shouldered. Berries middle sized, round. Skin thin, amber colour, occasionally tinged with a little russet when fully ripe. Flesh tender, juicy, sweet and excellent.

20. Royal Muscadine. Thomp. Lind. Mill.

Amber Muscadine.	Chasselas blanc.	*ac. to Thomp.*
Early White Teneriffe.	Chasselas de Fontainebleau.	
Golden Chasselas.	D'Arbois.	
White Chasselas.	Raisin de Champagne.	
Chasselas doré.	Amiens.	

A truly excellent grape in all respects—one of the very best for hardy culture in this climate, or for the vinery. It is everywhere highly esteemed, and is the Chasselas *par excellence* of the French.

Royal Muscadine.

Bunches large, and shouldered. Berries, (fig. 94,) larger than those of the Sweetwater, round. Skin thin, at first greenish white, but turning to an amber colour when fully ripe. Flesh tender, with a rich and delicious flavour. Ripens here about the 20th of September. Wood and foliage stronger than those of the Sweetwater.

21. Scotch White Cluster. Thomp.

Blacksmith's White Cluster.

This is a new grape, not yet fairly tested in this country, but which is likely to prove a valuable one for garden culture, as it has the reputation in England of being very hardy, very early, and a great bearer. It was raised from the seed by a blacksmith of Edinburgh in 1812.

Bunches of middle size, compact. Berries medium sized, roundish-oval. Skin white, thin. Flesh tender, juicy, sweet, and excellent.

22. Syrian. Thomp. Lind. Speech.

Jews.

This is believed to be the grape mentioned in the scriptures as found by the Israelites on the brook of Eschol, the bunches of which were so large as to be borne on a staff by two men. It is a very superb looking fruit, and has been grown in this country to very large size. In England bunches of it have been produced weighing 19½ lbs. It is much inferiour in flavour to No. 24, and is, perhaps, therefore, scarcely desirable in a small collection.

Bunches enormously large, and regularly formed, with broad shoulders. Berries large, oval. Skin thick, white at first, but becoming a tawny yellow, or amber when at full maturity. Flesh firm and solid, moderately juicy and sweet, though not rich. Will hang till Christmas in a vinery. The wood and foliage are very large.

23. Verdelho. Thomp. Lind.

Verdal. Verdilhio.
Madeira Wine Grape.

A vigorous growing grape, of good quality, from Madeira, which is largely used in that island for making the best wines.

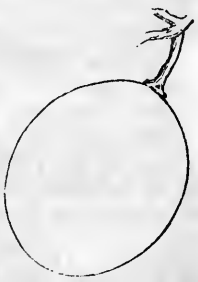
Bunches rather small, loose. Berries small, rather unequal in size, and often without seeds. Skin thin, semi-transparent, yellowish-green, a little tinged with russet when very ripe. Juice a little acid at first, but rich and excellent at maturity.

24. White Muscat of Alexandria. Thomp. Lind.

Frontniac of Alexandria. } *Miller.*
Jerusalem Muscat. }
Malaga,
White Muscat.
Tottenham Park Muscat.
White Muscat of Lunel.
Lunel.
Muscat d'Alexandria.
Passe-longue Musqué. *Duh.*
Passe Musqué.
Rebibo, (*of Sicily.*)

The most delicious of all grapes, but requires to be grown under glass in this climate. In favourable seasons it reaches maturity well in a vinery without fire-heat, but it can scarcely be said to attain its highest flavour except with the aid of artificial heat.

Bunches very large, often 9 to 12 inches, long, rather loose and irregular. Berries very large, an inch or more long, oval. Skin thick, white or pale amber when fully ripe. Flesh quite firm and crisp, with a peculiarly musky, rich, perfumed flavour, very delicious. Seeds small, and



White Muscat of Alexandria.

occasionally absent from the larger berries. This variety is a very strong grower, and is raised in great perfection about Boston. It will hang a long time on the vines.

Mr. Thompson considers the MALAGA grape (brought to this country in jars,) as synonymous. It is picked so early for importation as to have little flavour.

The CANNON-HALL MUSCAT, an English seedling, closely resembles this grape, but the flesh is firmer, the skin yellower, and it is not quite so rich in flavour. It also sets rather badly, requiring to be fertilized by hand with the pollen of some other sort.

25. WHITE FRONTIGNAN. Lind. Thomp.

White Constantia.	Moschata Bianca.
White Frontniac.	Moscado Bianco.
Nepean's Constantia.	Moscatel Commun.
Muscat Blanc.	Muscateller.
Raisin de Frontignan.	Wiesser Muscateller.
Muscat Blanc de Jura.	Weisse Muscaten Traube.

The White Frontignan is a very favourite grape, as the many names, quoted above, by which it is known in various parts of Europe, sufficiently prove. Its hardy habit, uniform productiveness in the vinery, and most luscious flavour, make it everywhere esteemed.

Bunches of medium size, or pretty long, and without shoulders. Berries middle sized, round, rather thickly set. Skin thin, dull white or yellow, covered with a thin bloom. Flesh tender, with a rich, perfumed, musky flavour.

26. WHITE SWEETWATER. Thomp.

Early White Muscadine.	Dutch Sweetwater
White Muscadine, (*of Lind.*)	Chasselas Precoce.
Early Sweetwater.	Chasselas Royal.
Stillward's Sweetwater.	Water Zoete Blanc.

This grape is better known, and more commonly cultivated than any other in this country, although it is inferiour to the Royal Muscadine. It differs from the latter in having weaker wood, and open, loose bunches of a paler colour.

Bunches middle sized, loose or open, usually with many small imperfect berries, shouldered. Berries of the middle size, round. Skin thin, clear watery green, rarely becoming amber except very fully exposed to the sun. Flesh crisp, watery, sweet, but not high flavoured. Ripens in the open air from the 20th to the last of August—a fortnight earlier than the Royal Muscadine.

27. WHITE TOKAY. Thomp.

Genuine Tokay. *Lind. Speech.* Gray Tokay ?
Tokai blanc.

This is the fruit from which the delicious Tokay wine of

Hungary is made. We have ripened it very well in the open air. Its flavour is good and its aroma peculiarly agreeable.

Bunches of medium size, compact. Berries rounded oval, closely set. Skin thin, of a dull white. Flesh very delicate, sweet and perfumed. Leaves deeply 5-lobed, and covered with a satiny down on the lower surface.

28. White Hamburgh. Thomp.

White Lisbon. White Portugal.
White Raisin.

This is the Portugal grape of commerce, which is so largely exported to different parts of the world in jars. It is not a high flavoured though a very showy grape, and will hang a long time on the vines after maturity. It requires a vinery.

Bunches very large and loose. Berries large oval. Skin thick, greenish-white. Flesh solid, sweet, and sometimes with a slight Muscat flavour. Bunches of this variety weighing over three pounds have been grown near Boston.

29. White Nice. Thomp. M'Intosh.

A very large and showy fruit, and, in a vinery with fire-heat, a very excellent sort. M'Intosh, an English gardener of reputation, has grown bunches of this the White Nice to the enormous weight of eighteen pounds, and considers it "one of the noblest of grapes."

Bunches very large, with loose shoulders. Berries roundish, medium size, thinly distributed over the shoulders and sides of the bunch. Skin thin, rather tough, greenish-white, becoming, finally, a little yellowish. Flesh crisp, sweet, and of very good flavour. Leaves and wood very strong, the latter remarkably downy beneath.

30. White Rissling. Thomp.

Schloss Johannisberg. Petit Riessling.
Rudeshimerberg. Grosser Riessling.
Reissling. Rössling.
Kleier Rissling.

The most celebrated grape of the Rhine, producing the celebrated Hock wines It is yet little known in this country, but from its very great hardiness and productiveness, in the cold districts of its native soil, we hope to find in it a valuable acquisition for our gardens—if not for our vineyards.

Bunches of medium size, compact. Berries rather small, round. Skin thin. Flesh tender and juicy, with sweet and sprightly pleasant flavour.

CLASS III.

GRAPES WITH LIGHT RED, ROSE-COLOURED, OR STRIPED BERRIES.

31. Aleppo. Thomp. Lind.

Switzerland Grape.
Striped Muscadine.
Variegated Chasselas.
Raisin Suisse.
Raisin d'Aless.
Chasselas panaché.
Maurillan panaché.
Maurillan noir panaché.

A very singular grape, the berries being mostly striped with white and black in distinct lines ; or sometimes half the bunch will be black, and half white. It bears very well, and is deserving a place in the vinery of the amateur. The foliage is also prettily striped in autumn.

Bunches rather below medium size. Berries medium size, roundish. Skin thin, striped with white and dark red, or black Flesh juicy, and of a rich and excellent flavour.

32. Grizzly Frontignan. Thomp. Lind.

Red Frontignan, (*of some.*)
Grizzly Frontignac.
Red Constantia.
Muscat Rouge.
Muscat Gris.
Muscado Rosso.
Kümmel Traube.
Grauer Muscateller.

This delicious grape requires to be grown in a vinery, when it is, to our taste, scarcely surpassed.

Bunches rather long, with narrow shoulders. Berries round, of medium size, and growing closer upon the bunches than those of the White Frontignan. Skin thick, pale brown, blended with red and yellow. Flesh very juicy, rich, musky and high flavoured.

The Red Frontignan Thompson considers the same as the foregoing, only being more deeply coloured in some situations. But Lindley, with whom we are inclined to agree in this case, keeps it distinct. The latter describes the Red Frontignan as having bunches without shoulders, berries perfectly round, and deep red, flavour excellent. These two sorts require more careful comparison.

33. Knight's Variegated Chasselas. Thomp.

Variegated Chasselas. *Lind.*

A hybrid seedling, raised by Mr. Knight from the White Chasselas, impregnated by the Aleppo. A curious and pretty fruit, but not first rate in flavour.

Bunches rather long, unshouldered. Berries below the middle size, round, loosely set. Skin quite thin, white, shaded with

bluish violet, sometimes becoming purplish in the sun. Flesh tender, sweet, and pleasant. The leaves die off in autumn of fine red, yellow, and green colours.

34. Lombardy. Thomp. Lind.

Flame Coloured Tokay. Rhemish Red.
Wantage. Red Grape of Taurida.

The Lombardy is remarkable for the very large size of the bunches, which are frequently twelve to eighteen inches long. It is a handsome fruit, the berries thickly set, (so much so as to need a good deal of thinning,) and it requires fire-heat to bring it to full perfection.

Bunches very large, handsomely formed, with large shoulders. Berries large roundish. Skin thick, pale red or flame colour. Flesh firm, sweet, with a sprightly, very good flavour.

35. Red Chasselas. Thomp. Lind. Fors.

Red Muscadine. *Mill.* Chasselas Rouge. *Duh.*

This grape a good deal resembles the White Chasselas, except that the berries are slightly coloured with red. Very rarely, when over ripe, they become a dark red.

Bunches loose, not large; berries medium size, round. Skin thin, at first pale green, but when exposed to the sun they become red. Flesh tender, sweet, and very good. Not very hardy.

Cultivation of the Native Grapes.

The better varieties of the native grapes, are among the most valuable of fruits in the middle states. Hardy, vigorous, and productive, with a moderate amount of care they yield the farmer, and the common gardener, to whom the finer foreign sorts requiring much attention and considerable expense in culture, are denied, the enjoyment of an abundance of very good fruit. In this part of the country no fruit is more common than the grape, and many families preserve large quantities for use during the winter months, by packing them away, as soon as ripe, in jars, boxes, or barrels, between layers of cotton batting —in which way they may be kept plump and fresh till February.

The grape region has been lately greatly extended by the addition of new varieties, which, in consequence of ripening their fruit much earlier than the Isabella and Catawba, are suited to two or three degrees of latitude farther north than the limit of the cultivation of these varieties.

The garden culture of the hardy native grapes, although not very difficult, cannot be accomplished so as to give the

fruit in perfection, without some attention to their habits and wants. The soil should be dry, deeply worked, and well enriched, always bearing in mind that it is an essential point to secure a perfectly open, sunny exposure, as it may always be assumed that with us no atmosphere can be too warm or bright for the grape; for although it will make the most vigorous shoots in the shade of trees or buildings, yet the crops will be small, the fruit poor and uncertain, and the vines likely to fall a prey to mildew.

In the second place the vines should be *kept within moderate bounds*, and trained to an *upright trellis*. The Isabella and Catawba are so rampant in their growth, when young, that the indulgent and gratified cultivator is but too apt to allow them to overbear; the border should always be given to the exclusive occupancy of the vines, and the roots should be allowed space proportional to the branches they are to carry. By observing these directions, and not suffering the vines to overbear, they may be continued a long time in full vigour and productiveness.

The system of pruning and training these grapes generally pursued is the upright mode, with the spur mode of training. The first season's growth of a newly planted vine is cut back to two buds the ensuing fall or spring. These two buds are allowed to form two upright shoots the next summer, which at the end of the season are brought down to a horizontal position, and fastened each way to the lower horizontal rail of the trellis, being shortened at the distance of three or four feet from the root—or as far each side as the plant is wished to extend. The next season, upright shoots are allowed to grow one foot apart, and these, as soon as they reach the top of the trellis, are also stopped. The next year the trellis being filled with the vines, a set of lateral shoots will be produced from the upright leaders with from one to three bunches upon each, which will be the first crop. The vine is now perfect, and, in the spur mode of pruning, it is only necessary at the close of every season, that is, at the autumnal or winter pruning, to cut back these lateral shoots, or fruit spurs, to within an inch of the upright shoot from which they sprung, and a new lateral producing fruit will annually supply its place, to be again cut out at the winter pruning.

After several years' bearing, if it is found that the grapes fail in size or flavour, the vines should be cut down to the main horizontal shoots at the bottom of the trellis. They will then speedily make a new set of upright shoots which will produce very abundantly, as at first.

It cannot be denied that the *renewal* system of training (see page 305), is certain of yielding always the largest and finest fruit, though not so large a crop—as half the surface of the vine is every year occupied with young wood, to take the place of that annually cut out.

What we have already stated, in page 306, respecting pruning will apply equally well here. If the vine is *fully exposed to the sun* it will require very little summer pruning; in fact, none, except stopping the young shoots three joints beyond the farthest bunch of grapes, at midsummer—for the leaves being intended by nature to elaborate the sap, the more we can retain of them, (without robbing the fruit unduly of fluids expended in making new growth,) the larger and higher flavoured will be the fruit; careful experiments having proved that there is no more successful mode of impoverishing the crop of fruit than that of pulling off the leaves.

In the axils of the leaves by the side of the buds, which are to send forth shoots for next season's crops—branches *called laterals* push forth which should be pinched off at the first leaf—and at the next leaf where they start again; generally the second stopping will be sufficient.

The annual pruning of the hardy grapes is usually performed during mild days in February or March—at least a month before vegetation is likely to commence. Many cultivators prefer to prune their vines in November, and, except for cold latitudes or exposures, this is undoubtedly the better season.

Every third year, at least, the borders where the vines are growing should have a heavy top-dressing of manure. The vine soon exhausts the soil within its reach, and ceases bearing well when that is the case. We have frequently seen old and impoverished vines entirely resuscitated by digging in about the roots, as far as they extend, a very heavy top-dressing of slightly fermented stable manure.

Vineyard Culture. While many persons who have either made or witnessed the failures in raising the foreign grapes in vineyards in this country, believe it is folly for us to attempt to compete with France and Germany in wine-making, some of our western citizens, aided by skilful Swiss and German vine-dressers—emigrants to this country, have placed the fact of profitable vineyard culture beyond a doubt, in the valley of the Ohio. The vineyards on the Ohio, now covering many acres, produce regular, and very large crops, and their wine of the different characters of Madeira, Hock, and Champagne, brings very readily from 75 cents to one dollar a gallon in Cincinnati. The Swiss, at Vevay, first commenced wine-making in the West, but to the zeal and fostering care of N. Longworth, Esq., of Cincinnati, one of the most energetic of western horticulturists, that district of country owes the firm basis on which the vine culture is now placed. The native grapes—chiefly the Catawba—are entirely used there, and as many parts of the middle States are quite as favourable as the banks of the Ohio for these varieties, the much greater yield of these grapes

leads us to believe that we may even here pursue wine-making profitably.

The vineyard culture of the native grape is very simple. Strong, loamy, or gravelly soils are preferable—limestone soils being usually the best—and a *warm, open, sunny exposure* being indispensable. The vines are planted in rows, about six feet apart, and trained to upright stakes or posts as in Europe. The ordinary culture is as simple as that of a field of Indian corn—one man and horse with a plough, and the horse cultivator, being able to keep a pretty large surface in good order. The annual pruning is performed in winter, top-dressing the vines when it is necessary in the spring; and the summer work, stopping side shoots, thinning, tying, and gathering, being chiefly done by women and children. In the fermentation of the newly made wine lies the chief secret of the *vigneron*, and, much as has been said of this in books, we have satisfied ourselves that careful experiments, or, which is better, a resort to the experience of others, is the only way in which to secure success in the quality of the wine itself.

Diseases. The mildew, which is troublesome in some districts, is easily prevented by keeping the vine of small size, and by the renewal system of pruning, or never allowing the vine to bear more than two years on spurs from the same old wood.

The beetles which sometimes infest the grape vines in summer, especially the large brownish yellow vine beetle, (*Pelidnota punctata*,) and the grape-vine flea-beetle, (*Haltica chalybea*,) are very destructive to the foliage and buds, and the most effectual remedy is hand-picking when taken in time. But we would also very strongly recommend again the use of open mouthed bottles, half filled, (and kept renewed,) with a mixture of sweetened water and vinegar, and hung here and there among the vines. Indeed, we have seen *bushels* of beetles, and other insects, destroyed in a season, and all injury prevented, simply by the use of such bottles.

Varieties. The most valuable native grapes are those two old standard varieties, Isabella and Catawba, with those more recently introduced, Diana, Delaware, Rebecca, and Concord. For warm exposures and particularly for the South the Herhemerit is a most excellent variety. The Elsingburgh, is a very small grape, but of delicious quality, and the Clinton is prized chiefly for latitudes where the Isabella does not always ripen.

1. *Native Grapes.*

ALEXANDER'S. Thomp. Prin.

Schuylkill Muscadell. *Adlum.*
——— Muscadine.
Cape Grape.
Spring Mill Constantia. } *of Vevay, Ill.*
Clifton's Constantia.
Madeira, *of York, Pa?*
Tasker's Grape.
Winne.

This grape, a natural seedling, was first discovered by Mr. Alexander, gardener to Gov. Penn, before the war of the revolution. It is not unfrequently found, as a seedling, from the wild Foxgrape, on the borders of our woods. It is quite sweet when ripe, and makes a very fair wine, but is quite too pulpy and coarse for table use. The bunches are more compact, and the leaves much more *downy*, than those of the Isabella.

Bunches rather compact, not shouldered. Berries of medium size, oval. Skin thick, quite black. Flesh with a very firm pulp, but juicy, and quite sweet and musky, when fully ripe, which is not till the last of October.

2. BLAND.

Bland's Virginia. Bland's Madeira.
Bland's Pale Red. Powell.
Red Scuppernong, (*of some.*)

The Bland is one of the best of our native grapes, approaching, in flavour and appearance, the Chasselas grapes of Europe, with very little pulp, and only a slight astringency. It does not ripen well to the north of this, except in favourable situations, and should always be planted in a warm exposure. It is a genuine native sort, (doubtless a natural seedling,) and is said to have been found on the eastern shore of Virginia, by Col. Bland of that state, who presented scions to Mr. Bartram, the botanist, by whom it was first cultivated. The Bland is not a great bearer, and has not proved valuable north. The fruit keeps admirably, in jars, for winter use.

Bunches rather long, loose, and often with small, imperfect berries. Berries round, on long stalks—hanging rather thinly. Skin thin, at first, pale green, but pale red when ripe. Flesh slightly pulpy, of a pleasant, sprightly, delicate flavour, and with little or no musky scent, but a slight astringency. Ripens pretty late. Foliage lighter green than that of the Catawba, smoother, and more delicate. This vine is quite difficult of propagation by cuttings.

Brinckle.

Raised by Peter Raabe near Philadelphia, but not yet tested as to hardiness. Bunch large, rather compact, sometimes shouldered. Berries five-eighths of an inch in diameter; round, black. Flesh solid, not pulpy. Flavour rich, vinous, and saccharine; quality "best." (Ad. Int. Rep.)

Canadian Chief.

From Canada, and claimed to be a native, but so strongly marked with foreign characteristics that we think it will not prove to be an acquisition for general cultivation.

Bunches very large and shouldered, and the vine very productive, and will probably do better in Canada than in a warmer latitude.

Canby's August.

Raised by William Canby, of Wilmington, Delaware. Ripe eight or ten days before Isabella, and rather better in quality.

Bunch four to five inches long, and over two inches broad, very compact. Berry medium size, roundish, inclining to oval, nearly black, thickly covered with bloom. Flesh tender, juicy, not pulpy, or but very little, sweet and pleasant.

Cassady.

An accidental seedling that sprung up in P. H. Cassady's yard, in Philadelphia.

Bunches medium size, tolerably compact, and sometimes shouldered. Berry below medium, round, greenish white, with occasionally a faint salmon tint, and thickly covered with white bloom. Flesh juicy, with but little pulp, flavour pleasant. Quality "very good." (Ad. Int. Rep.)

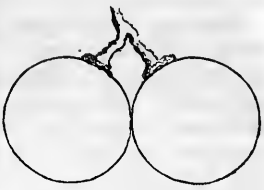
Catawba. Adlum. Ken.

Red Muncy. Catawba Tokay.

This excellent native grape was first introduced to notice by Major Adlum, of Georgetown, D. C., and was found by him in Maryland. It probably has its name from the Catawba river, but it has been found growing at various points from that river to Pennsylvania. It is one of the hardiest, most productive, and excellent of our native sorts, either for wine or table use, and succeeds well in all situations not too cold for grape culture. In habit of growth, it so closely resembles the Isabella that it is difficult to distinguish the two, except in the colour and shape

of the fruit. Unless it be very ripe, it is, perhaps, a little more musky in flavour, than the Isabella.

Bunches of medium size, somewhat loose, shouldered. Berries, round, (or sometimes slightly oval,) pretty large. Skin rather thick, pale red in the shade, but pretty deep red in the sun, covered with a lilac bloom. Flesh slightly pulpy, juicy, very sweet, with an aromatic, rich, musky flavour. Ripe from the 1st to the middle of October, and should be allowed to hang till fully ripe.



Catawba.

Childs' Superb.

Childs' Seedling.

A very large fine grape grown in Utica, N. Y., by Mr. Childs. It is doubtless of foreign origin, but has succeeded with him without glass, although latterly grown under it. We presume its foreign characteristics will not fit it for open culture.

Clara.

Raised by Peter Raabe. Bunch medium, not compact. Berry medium, round, green, faintly tinged with salmon when exposed to the sun. Flesh tender, juicy, flavour rich, sweet and delicious, quality "best."—(Ad. Int. Rep.)

Clinton.

Origin uncertain—said to have originated in Western New York, growth vigorous, hardy, and productive. Bunch medium, shouldered, long and narrow, somewhat irregular but compact. Berries round, rather below medium size, black, covered with a thick bloom, juicy, with some acidity and toughness in its pulp, but with a brisk vinous flavour; eatable eight or ten days before Isabella, but continues austere till after cold weather, when it becomes very good.

Columbia. Prince.

This grape is said to have been found by Mr. Adlum on his farm at Georgetown, D. C., a vigorous grower, productive.

Bunch small, compact. Berry small, black, with a thin bloom, with very little hardness or acidity in its pulp, not high flavoured, but pleasant and vinous, scarcely if at all foxy—ripe last of September.

Concord.

This fine hardy native grape was raised from seed by E. W. Bull, Concord, Mass. It is of very healthy, vigorous habit, and exceedingly productive. Bunch rather compact, large shouldered. Berries large, globular, almost black, thickly covered with bloom. Skin rather thick, with more of the native pungency and aroma than the Isabella, which it resembles, but does not quite equal in quality. Flesh moderately juicy, rather buttery, very sweet, with considerable toughness and acidity in its pulp. It is more hardy than the Isabella and ripens about ten days earlier, consequently it is a very valuable variety for a large northern range where the Isabella does not ripen.

Delaware.

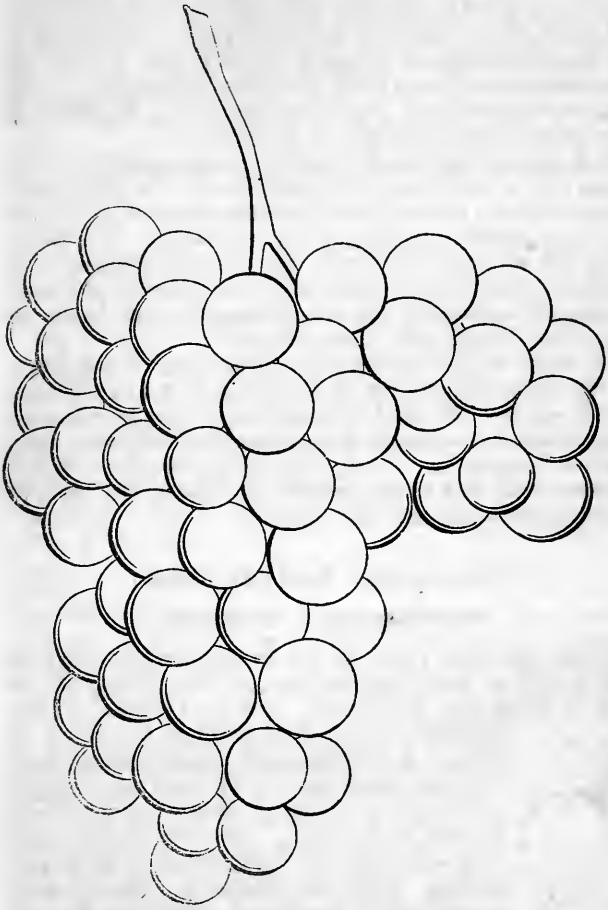
Heath.
Traminer.
Red Resling. } *incorrectly.*

The precise origin of this grape is not known. We have the following account of it from our friend, A. Thomson of Delaware, Ohio, to whose appreciative taste and liberality the country is indebted for the introduction of our best hardy table grape.

Among an indiscriminate mixture brought to Delaware for sale by a German, he found this, whose excellence immediately attracted his attention, and on inquiry as to its history, he found it in the possession of some German emigrants who said they brought it from New Jersey some eighteen years ago, having obtained it from the garden of a French gentleman named Paul H. Provost, in Kingswood township, Hunterdon Co., N. J. It was known in that vicinity as the "Italian wine grape," and had been received by Mr. Provost many years before from a brother residing in Italy.

By some German wine-growers in Cincinnati, it has been thought to be Traminer, and by others the Red Resling, two celebrated wine grapes of Germany, to which its fruit bears a strong resemblance, but from which, in wood and foliage, it is as distinct as any of our native grapes. Mr. Thomson thinks it must have been an accidental seedling that sprang up in that garden, as it is free from blight and mildew, never prematurely losing its leaves, and seeming to luxuriate in our climate, which cannot be said of any foreign variety with which we are acquainted. Bunch small, very compact, and generally shouldered. Berries smallish, round when not compressed. Skin thin, of a beautiful light-red or flesh colour, very translucent, passing to wine colour by long keeping, It is without hardness or acidity

in its pulp, exceedingly sweet but sprightly, vinous, and aromatic, and is well characterised by Mr. Prince* as our highest flavoured and most delicious hardy grape. It is a vigorous grower, an early and profuse bearer, and probably more hardy than Isabella or Catawba. In the garden of Mr. Thomson, where all other



Delaware.

kinds were nearly destroyed by the unprecedented cold of '55 and '56, this alone was uninjured. It ripens nearly, or quite,

* Remarks in bringing it before the Pomological Congress.

three weeks before the Isabella. Its bunches and berries are very greatly increased in size by high culture.

Diana.

A seedling of the Catawba raised by Mrs. Diana Crehore of Boston, and named by the Massachusetts Horticultural Society. Its promise of excellence was first made known to the public by Mr. Hovey through his Magazine in 1844, and in 1849 the Horticulturist announced it the best and most beautiful of American grapes, particularly valuable for its earliness. For the South it has proved even better than at the North.

In its general appearance it bears a strong resemblance to its parent, but in its earliness of ripening and in the quality of its fruit, as well as in general hardiness and certainty of maturing its crops, it is greatly superiour to that fine variety. The berries are of the same globular shape, but not quite so large. The bunches regularly conic in form, large, very compact, and heavy, not properly shouldered, but often having a small bunch appended by a long branch of the peduncle.

The colour is a fine reddish lilac, thickly covered with bloom, and the berries generally marked with three or four indistinct star-like specks. The fruit when fully ripe abounds in fine rich juice, vinous, and aromatic, from which all the offensive native odor has disappeared. It hangs long on the vines, is not injured by severe frosts, and keeps admirably for winter use. It is exceedingly productive and very vigorous.

Elsingburgh. Ken. Prin. Adlum.

Smart's Elsingburg. Elsenborough.

A very nice little grape for the dessert, perfectly sweet and melting, without pulp, originally brought from a village of this name in Salem Co., New Jersey. It is not a great deal larger than the common Frost grape, in the size of the berry. A moderate, but regular bearer, ripens well, and much esteemed by many for the table.

Elsingburgh.

Bunches pretty large, loose, and shouldered. Berries, small, round. Skin thin, black, covered with a blue bloom. Flesh entirely without pulp, melting, sweet, and excellent. The leaves are deeply 5-lobed, pretty dark green, and the wood rather slender, with long joints.

Emily.

Raised by Peter Raabe near Philadelphia, not proved as to hardiness. Bunch large, not very compact, occasionally shoul-

dered. Berry below medium, from three eighths to one half an inch in diameter, round, pale red. Flesh very juicy, with little or no pulp. Flavour saccharine and delicious, quality "best" for an out-door grape. (Ad. Int. Rep.)

Garrigues.

Raised by Edward Garrigues Kingsessing, Philadelphia. A vigorous grower, hardy and productive, very much resembles Isabella and no doubt a seedling of it. Bunch large, loose, shouldered. Berries large, oval, dark purple, covered with a thick bloom. Flesh with little toughness in its pulp, juicy, sweet, and rich—ripe eight or ten days before Isabella.

Graham.

An accidental seedling introduced by Wm. Graham, of Philadelphia. Bunch of medium size, shouldered, not compact. Berry half an inch in diameter, round, purple, thickly covered with a blue bloom, contains little or no pulp, and abounds in saccharine juice of agreeable flavour, quality "best." (Ad. Int. Rep.)

Hartford Prolific.

Raised by Mr. Steel of Hartford, Conn. Hardy, vigorous, and productive. Bunch large, shouldered, rather compact. Berry large, globular, with a good deal of the native perfume. Skin thick, black, covered with a bloom. Flesh sweet, moderately juicy with considerable toughness and acidity in its pulp; ripe about ten days before Isabella.

Herbemont.

Warren. Warrenton.
Herbemont's Madeira.

Origin claimed for many localities, but not yet fully ascertained. This is the most rampant grower of all our hardy grapes, and under favourable circumstances yields a fruit of surpassing excellence with which the nicest detector of foxiness, thickness of skin, toughness or acidity of pulp, can find no fault; north of Philadelphia it needs a warm exposure or favourable season for the full development of all its excellences. In our village under the care of a lady, it has not failed for many years to give a most abundant crop of perfectly ripened fruit, and without protection has not suffered at all from winter killing. A very old vine in Baltimore, which had never before failed to produce abundantly since its first bearing, had, last winter when the mercury fell to 19° below zero, all its young wood killed; but ordinarily in that latitude and further south, it is an unfail-

ing bearer, and particularly fitted for those southern latitudes that are liable to injury from late frosts in spring and early frosts in autumn, as it flowers very late and ripens its fruit early. Its leaves in autumn are the last to yield to frost, remaining perfectly green and vigorous after all others have withered or fallen, consequently it has often an amount of unripened wood which should be cut off before winter.

Bunch very large and exceedingly compact, shouldered. Berries below medium, round, dark blue, or violet, covered with a thick light bloom. Skin thin, which is filled with a sweet, rich, vinous, aromatic juice, of so little consistence, that it cannot be called flesh.

Lenoir, *Long*, *Devereaux*, and *Thurmond*.—Under the above names, grapes much resembling in character the Herbemont, are grown in the Southern states, and we have hitherto considered them synonymous of it; but all our southern friends claim that Lenoir is a distinct variety, and much earlier than any of the others, and also at least that some of the others are distinct. The matter is now under investigation, and we must wait the result before deciding.

Hudson.

Originated in the garden of Mr. Calkins, Hudson, N. Y. Growth similar to Isabella, and said to be two or three weeks earlier. Bunch and berry much the same, but less sprightly and not quite so rich.

Hyde's Eliza.

Intermediate in appearance, and quality between Isabella and Clinton; growth not quite as strong as Isabella, but ripe a week earlier.

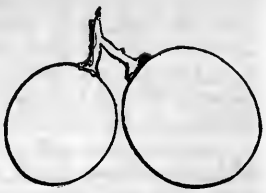
Isabella. Prin. Ken. Adlum.

This very popular grape, a native of South Carolina, was brought to the north and introduced to the notice of cultivators about the year 1818, by Mrs. Isabella Gibbs, the wife of George Gibbs, Esq., in honour of whom it was named. Its great vigour, hardiness, and productiveness, with the least possible care, have caused it to be most widely disseminated. A vine growing here has borne 12 bushels of grapes in a single year. It is, perhaps, a little more hardy, and ripens earlier than the Catawba, which renders it valuable at the northern part of this state, or the colder portion of New-England. No farmer's garden, however small, should be without this and the Catawba.

Bunches of good size—five to seven inches long, rather

loose, shouldered. Berries, oval, pretty large. Skin thick dark purple, becoming at last nearly black, covered with a blue bloom. Flesh tender, with some pulp, which nearly dissolves when fully mature; juicy, sweet and rich, with slight musky aroma.

This grape is frequently picked as soon as it is well coloured, and long before it is ripe.



Isabella.

Louisa.

Raised by Samuel Miller, Calmdale, Lebanon Co., Penn. He says, hardy, vigorous grower, and having less seeds than most native grapes. Bunch medium, rather compact, occasionally shouldered. Berry round inclining to oval, black with a blue bloom, somewhat the flavour of Isabella, rather better quality, and ripe eight or ten days earlier.

Lyman.

Origin unknown—a Northern variety; hardy and productive. Bunch small, rather compact. Berry, round, medium or below, black, covered with a thick bloom, similar in flavour to Clinton, and ripens about the same time.

Mammoth Catawba.

Bunch large, not compact. Berry large, round, of a deeper red and larger size than Catawba, but not equal to it in flavour. —(Ad. Int. Rep.)

Marion.

Origin unknown. Sent to Mr. Longworth from Marion, Ohio, and by him disseminated. It much resembles the Isabella in shape and size of berry, and form of bunch, but more uniform in its ripening and more delicate in flavour, ripening about the same time. Growth healthy, making firm and short jointed wood, with strong red tendrils; a good bearer.

Bunches large, regular, seldom shouldered. Berries large, round, inclining to oval, dark purple with a bloom, juice abundant, pulp thin, not sufficiently tested for wine, a promising variety. (A. H. Ernst, Mo.)

Missouri.

Missouri Seedling.

This grape we received from Cincinnati, where it is con-

siderably cultivated, and much esteemed in the vineyards, making a wine much resembling Madeira. It was received there from the east, under this name, and we think, may very probably be a seedling from one of the Pineau or Burgundy grapes. It is not very productive, and makes little wood. The latter is greyish, spotted with dark brown specks, short jointed, buds in clusters, double and triple. Leaves deeply cut, trilobed.

Bunches loose, and of moderate size. Berries small, round. Skin thin, almost black, with very little bloom. Flesh tender, with little pulp, sweet, and pleasant, but inferiour to the Ohio for the table.

Norton's Virginia. Prin. Ken.

Norton's Seedling.

A native seedling, produced by a cross between the Bland and Miller's Burgundy, by Dr. N. Norton, of Richmond, Virginia. It is a most productive grape in garden or vineyard, bearing very large crops (especially at the south, where many kinds rot,) in all seasons. It has been confounded by some with Ohio grape, from which it is quite distinct, more pulpy, and less agreeable for the dessert, though, probably, a much better wine grape.

Bunches long, sometimes eight or nine inches, occasionally shouldered, somewhat compact. Berries small, round. Skin thin, dark purple. Flesh pulpy, with a brisk, rather rough flavour. The foliage is light coloured, shaped like the Elsinburgh. Shoots strong and hardy.

Northern Muscadine.

Raised by the Shakers at New Lebanon, Columbia Co. N. Y.

Bunches small, short, compact. Berry large, round, chocolate or brownish red. Skin thick, with a pungency and odour common to the wild fox grape, and is a very little, if any, improvement on it. The berries fall from the bunch as soon as ripe, which is about two weeks before Isabella.

Ohio.

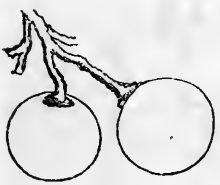
Segar Box Grape. Longworth's Ohio.
Jack.

This grape, which has recently attracted a good deal of attention, has a rather singular history. The cuttings, from which all the present stock has originated, were left in a segar box, at the residence of N. Longworth, Esq., Cincinnati, Ohio, during his absence from home, by some person who was not

known, and who left no account of them. It is still commonly known as the Segar Box in that vicinity.

It is now supposed to be the same as the Jack Grape cultivated near Natchez, Mississippi, and was so called from an old Spaniard of the name of Jaques, who introduced the vine. It is most likely a foreign sort, and, except in a few localities, a sandy soil and a mild climate, it is not likely to succeed; it will not stand our winters here.

The wood is strong, long jointed, lighter red than that of the Norton's Virginia, and smooth, with peculiarly pointed buds. Leaves large, trilobed.



Ohio.

Bunches large and long, from six to ten inches, and often fifteen inches in length, rather loose, tapering, shouldered. Berries, small, round. Skin thin, purple, with a blue bloom. Flesh tender, and melting, without any pulp, brisk and vinous.

This grape is a good bearer, requires to be well pruned, and the wood laid-in thin and long.

Raabe.

Raised by Peter Raabe, (thought to be hardy.)

Bunches small, compact, rarely shouldered. Berry below medium size, round, dark red, thickly covered with bloom. Flesh very juicy, with scarcely any pulp. Flavour saccharine, with a good deal of the Catawba aroma. Quality "best." (Ad. Int. Rep.)

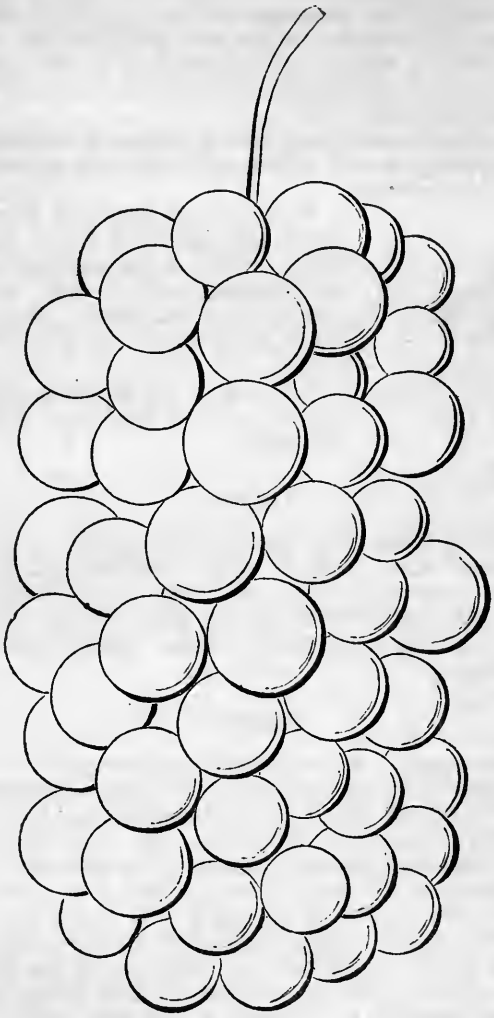
Rebecca.

A new variety. First disseminated last season.

Bunches nearly cylindric, about four inches long by two and a half inches in diameter, very compact, and heavy, often shouldered. Berries of full, medium size, oval, and generally much compressed, strongly adhering to the peduncle. Colour light green in the shade, auburn or golden in the sun, and covered with a light bloom, considerably translucent. Flesh of some consistence, juicy, sweet, and delicious, with a perceptible native perfume, but very agreeable. It has no toughness or acidity in its pulp, and ripens eight or ten days earlier than Isabella, and keeping a long time after it is gathered.

This superior hardy white grape is undoubtedly a native—a chance seedling in the garden of E. M. Peake, of Hudson, N. Y., where it has been growing about nine years, and there

proved perfectly hardy and productive. It is not so vigorous in its habit as Isabella and Catawba, but healthy, and not disposed



Rebecca.

to mildew, and being exceedingly beautiful as well as excellent, it must be regarded as a very great acquisition.

Scuppernong. Prin. Adlum

Fox Grape,
Bull or Bullet,
American Muscadine, } *of the south.*
Roanoake.
Vitis Vulpina. *Lind.*
—— rotundifolia. *Michx.*

The Scuppernong grape is a very distinct southern species, found growing wild, from Virginia to Florida, and climbing the tops of the tallest trees. It is easily known from every other grape by the small size of its leaves, which are seldom over two or three inches in diameter, and by their being glossy and smooth on both the under and upper surfaces. These leaves are roundish and coarsely serrated, and the young shoots are slender; the old wood is smooth, and not shaggy, like that of most vines. This species is dicœcious.

We have made several trials with the Scuppernong grape, but find it quite too tender for a northern climate, being killed to the ground by our winters. At the south it is a very hardy, productive, and excellent wine grape. The White and Black Scuppernong scarcely differ, except in the colour of the fruit. The *tendrils* of each correspond in hue with the fruit.

Bunches small, loose, seldom composed of more than six berries. Berries round, large. Skin thick, light green in the white, dark red in the black variety. Flesh quite pulpy, except when very thoroughly ripe, juicy and sweet, but with a strong, musky scent and flavour.

To-Kalon.

Raised by Dr. Spofford, of Lansingburgh, N. Y.

This fine grape has been but little disseminated in consequence of the general supposition that it was very much like, if not identical with, the Catawba, from which it is entirely distinct in wood, foliage, and every characteristic of the fruit. It is a vigorous grower, foliage very large, abundant, and much less rough than Catawba or Isabella, and the alæ of the leaves overlap each other different from any other with which we are acquainted.

Bunches large and shouldered. Berries varying in form from oval to oblate, very dark in colour and profusely covered with bloom. Its fruit, when ripe, is very sweet, buttery, and luscious, without foxiness in its aroma, or any toughness or acidity in its pulp. It is perfectly hardy, and with good treatment in deep, rich, pervious soil, it is an early and abundant bearer; with indifferent treatment it is a poor bearer. It ripens a little earlier than Isabella.

Venango.

Miner's Seedling.

An old variety said to be cultivated by the French at Fort Venango, on the Alleghany river, some eighty years since. A very vigorous grower, and hardy.

Bunch compact, of a fine lilac colour, with the toughness of pulp belonging to the native varieties, but with a peculiar aromatic flavour which makes it valuable for the kitchen, and also for flavouring wine. Ripens two weeks earlier than Catawba. (R. Buchanan, MS.)

White Catawba.

A seedling from the Catawba, raised by Mr. Mottier, of Cincinnati. Inferiour to its parent; resembles the White Fox.

Bunches medium compact, sometimes small, often shouldered. Berries large, round, creamy white. Pulp hard, sweetish, deficient in juice, not tested for wine, and but little cultivated. (R. Buchanan, MS.)

York Madeira.

From York Co., Pa. Excellent when fully ripe; extremely productive, hardy; canes rather slender, short jointed, resembles Miller's Burgundy in size of berry, shape, and compactness of bunch. Excellent when fully ripe; of a peculiar flavour. (W. C. Waring.)

Selection of foreign grapes for a cold vinery. Black Hamburgh, White Frontignan, West's St. Peters, Chasselas of Fontainbleau, Black Prince, Zinfindal, and Grizzly Frontignan.

Selection of native grapes. Isabella, Catawba, Diana, Delaware, Rebecca, To-Kalon, and Concord.

CHAPTER XVIII.

THE MULBERRY.

Morus, Tourn. *Urticaceæ*, of botanists.
Murier, of the French; *Maulbeerbaum*, German; *Moro*, Italian; *Morel*, Spanish.

The Mulberry is a hardy, deciduous fruit tree, but little cultivated in this country, though it is really a very considerable acquisition to our list of summer fruits, and every garden of

considerable size, ought to contain one or two trees. The fruit ripens in July, very soon after the season of cherries. It is rarely picked from the trees, as it falls as soon as ripe, and it is therefore the custom to keep the surface below it in short turf, and the fruit is picked from the clean grass. Or, if the surface is dug ground, it may be sown thickly with cress seed, six weeks previously to the ripening of the fruit, which will form a temporary carpet of soft verdure.

The Red Mulberry (*Morus rubra*, L.) is a native species, more or less common in our woods, with large, rough, heart-shaped or lobed leaves. The fruit is about an inch long, and very pleasant and palatable—though much inferiour to the Black English. It bears transplanting well, or is easily raised from seed, and may, undoubtedly, be greatly improved by repeated reproduction in this way. As it forms a large ornamental tree with a fine spreading head forty feet high, it is well deserving a place on the lawn, or near the house, in ornamental plantations.

Johnson, a Seedling from Ohio. Fruit very large, oblong, cylindric; blackish colour, sub-acid, and of mild, agreeable flavour. Growth of the wood strong and irregular. Leaves uncommonly large.

The Black Mulberry, or English Mulberry, (*Morus nigra*, L.) is a very celebrated old fruit tree, originally from Asia, more or less commonly cultivated in all parts of Europe, but yet quite rare in this country. Its growth is slow, and it seldom attains a height of more than twelve or fifteen feet, forming a low, branching tree, with lobed leaves, but it is very long lived, and there is a specimen in England, at the seat of the Duke of Northumberland, 300 years old. In this country it is scarcely hardy enough north of New York, except in sheltered situations, An occasional extreme cold winter kills them; they are also subject to canker and die off.

The fruit is incomparably larger and finer than that of the Red Mulberry, being an inch and a half long, and nearly an inch across—black, and of delicious flavour.

There are many varieties of the White Mulberry, commonly cultivated for silk, but which produce fruit of no value.

The best soil for the Mulberry, is a rich, deep, sandy loam. The tree requires little or no pruning, and is of very easy culture. It is usually propagated by cuttings, three feet long, planted in the spring, half their depth in the ground; cuttings made of pieces of the roots will also send up shoots and become plants.

Everbearing. Originated here from seed of the Multicaulis. Tree very vigorous and very productive, an estimable variety, and surpassed by none except the Black English, and possesses the same rich subacid flavour. It continues in bearing a long time.

Fruit cylindric, one and a quarter of an inch long, and nearly half an inch in diameter. Color maroon, or an intense blue black at full maturity. Flesh juicy, rich, sugary, with a sprightly vinous flavour.

CHAPTER XIX.

NUTS.

The European Walnut, (*Juglans regia*, L.; *Noyer* of the French; *Walnaussbaum*, German; *Nocil*, Italian; and *Nogal*, Spanish;) better known here as the *Madeira Nut*, is a fine lofty growing tree, with a handsome spreading head, and bearing crops of large and excellent nuts, enclosed like those of our native black walnut in a simple husk. It stands the winter very well here, and to the south of this it would undoubtedly be a profitable fruit to plant for the market. The fruit in a green state is very highly esteemed for pickling, and the great quantities of the ripe nuts annually imported and sold here, prove the estimation in which they are held for the table. There are several varieties reputed to be of rather finer quality, which, however, have not displaced the original species, even in the gardens of Europe, and have not yet borne fruit here.

This tree is usually propagated by the seed, and transplanted from the nurseries when from three to six feet high. But it may also be grafted, with due care, on the common hickory nut.

The Hickory Nut (*Carya alba*,) or shell-bark, the Black Walnut (*Juglans nigra*,) and the Butternut, (*J. cinerea*,) are native nut-bearing trees, common in our forests, and too well known to need description here. There are occasionally found in the woods, accidental varieties of the *shell-bark hickory*, of much larger size and finer flavour than the common species, which are highly worthy of cultivation, as we confess, to our own taste, this nut is much superiour to the European walnut. There is indeed no doubt, that with a little care in reproduction by seed, the shell-bark may be trebled in size, and greatly improved in flavour.

The Filbert, (*Noisette*, of the French; *Nassbaum*, German; *Avellano*, Spanish; is an improved variety of the common hazel-nut of the woods of Europe, (*Corylus avellana*, L.) The fruit is three or four times as large as that of our common hazel-nut, and from its size and excellent flavour is admired for the dessert. The old Spanish filbert common in many of our

gardens, is a worthless, nearly barren variety, but we have found the better English sorts productive and excellent in this climate, and at least a few plants of them should have a place in all our gardens. They are generally raised from layers, made in the spring, but they may also be grafted readily on the common hazel-nut, or the Spanish nut. When planted out they should not be permitted to sucker, and should be kept in the form of bushes with low heads, branching out about two feet from the ground, and they should be annually pruned somewhat like the gooseberry, so as to preserve a rather thin, open head—shortening back the extremities of the young shoots one half, every spring.

The following are the best filberts known.

1. Cosford. (Thomp. P. Mag.) Nut large, oblong; husk hairy; shell remarkably thin, and kernel of excellent flavour. A good bearer.

2. Frizzled. (Thomp. P. Mag.) Easily known by its handsome, deeply cut husk. Nut of medium size, oval, compressed; husk hairy; shell thick; kernel sweet and good.

3. Northamptonshire Prolific. (Thomp.) Ripens early. Nut of medium size, oblong, husk hairy; shell thick.

4. Red Filbert. Easily known from other sorts, by the crimson skin of the kernel. Fruit of medium size, ovate. Shell thick. Kernel with a peculiar, excellent flavour.

5. White Filbert. (Thomp. Lind.) Resembles the last, but with a light yellow or white skin. The tree is also quite bushy. Nuts ovate. Husk long and tubular.

The English generally call those varieties with long husks, *filberts*, (*full-beards*,) and those with short husks, simply *nuts*.

The Chestnut, (*Castanea vesca*, W; *Chatagnier*, of the French; *Castainenbaum*, German; *Castagno*, Italian;) is one of our loftiest forest trees, common in most parts of the United States and Europe, and bearing excellent nuts. The foreign variety best known in this country, is the Spanish Chestnut, with fruit nearly as large as that of the Horse-Chestnut, and which is excellent when boiled or roasted. It thrives very well here, but is not quite hardy to the north or east of this. One or two English varieties have been produced, of considerable excellence, among which, the Downton is considered the best. The French cultivate a dozen or more varieties of greater or less excellence, but though some of them have been introduced, we have not yet fairly tested them in this country.

The Chinquapin, or Dwarf Chestnut, common in some parts of the middle and southern states, is a dwarf species of the chestnut, usually growing not more than six to ten feet high, and bearing fruit of half the size of the common chestnut, with the same flavour. It is worth a place in a small fruit garden, as a curiosity.

All the chestnuts are very easily cultivated in any good, light soil, and may be propagated by grafting, and by sowing the seeds.

CHAPTER XX.

THE PLUM.

Prunus domestica, L. *Rosaceæ*, of botanists.
Prunier, of the French; *Pflaumenbaum*, German; *Prugno*, Italian; *Ciruelo*, Spanish.

The original parent of most of the cultivated plums of our gardens is a native of Asia and the southern parts of Europe, but it has become naturalized in this country, and in many parts of it is produced in the greatest abundance.* That the soil and climate of the middle states are admirably suited to this fruit is sufficiently proved by the almost spontaneous production of such varieties as the Washington, Jefferson, Lawrence's Favourite, etc.; sorts which equal or surpass in beauty or flavour the most celebrated plums of France or England.

Uses. The finer kinds of plums are beautiful dessert fruits, of rich and luscious flavour. They are not, perhaps, so entirely

* There are three species of wild plum indigenous to this country—of tolerable flavour, but seldom cultivated in our gardens. They are the following.

I. The Chickasaw Plum. (*Prunus Chicasa*, Michaux.) Fruit about three fourths of an inch in diameter, round, and red or yellowish red, of a pleasant, sub-acid flavour, ripens pretty early. Skin thin. The branches are thorny, the head rather bushy, with narrow lanceolate, serrulate leaves, looking at a little distance somewhat like those of a peach tree. It usually grows about 12 or 14 feet high, but on the Prairies of Arkansas it is only 3 or 4 feet high, and in this form it is also common in Texas. The Dwarf Texas Plum described by Kenrick is only this species. It is quite ornamental.

II. Wild Red or Yellow Plum (*P. americana*, Marshall.) Fruit roundish, oval, skin thick, reddish orange, with a juicy, yellow, sub-acid pulp. The leaves are ovate, coarsely serrate, and the old branches rough and somewhat thorny. Grows in hedges, and by the banks of streams, from Canada to the Gulf of Mexico. Tree from 10 to 15 feet high. Fruit ripens in July and August.

III. The Beach Plum, or Sand Plum. (*P. maritima*, Wang.) A low shrub, with stout straggling branches, found mostly on the sandy sea-coast, from Massachusetts to Virginia, and seldom ripening well elsewhere. Fruit roundish, scarcely an inch in diameter, red or purple, covered with a bloom; pleasant, but somewhat astringent. Leaves oval, finely serrate.

wholesome as the peach or the pear, as, from their somewhat cloying and flatulent nature, unless when very perfectly ripe, they are more likely to disagree with weak stomachs.

For the kitchen the plum is also very highly esteemed, being prized for tarts, pies, sweetmeats, etc. In the south of France an excellent spirit is made from this fruit fermented with honey. In the western part of this state where they are very abundant, they are halved, stoned, and dried in the sun or ovens, in large quantities, and are then excellent for winter use. For eating, the plum should be allowed to hang on the tree till perfectly ripe, and the fruit will always be finer in proportion as the tree has a more sunny exposure. The size and quality of the fruit is always greatly improved by thinning the fruit when it is half grown. Indeed to prevent rotting and to have this fruit in its highest perfection, no two plums should be allowed to touch each other while growing, and those who are willing to take this pains, are amply repaid by the superior quality of the fruit.

One of the most important forms of the plum in commerce is that of *prunes*, as they are exported from France to every part of the world. We quote the following interesting account of the best mode of preparing prunes from the *Arboretum Britannicum*.

The best *prunes* are made near Tours, of the St. Catherine plum and the prune d'Agen; and the best *French plums* (so-called in England,) are made in Provence, of the Perdrigon blanc, the Brignole, and the prune d'Ast; the Provence plums being most fleshy, and having always most bloom. Both kinds are, however, made of these and other kinds of plums, in various parts of France. The plums are gathered when just ripe enough to fall from the trees on their being slightly shaken. They are then laid, separately, on frames, or sieves, made of wicker-work or laths, and exposed for several days to the sun, till they become as soft as ripe medlars. When this is the case, they are put into a spent oven, shut quite close, and left there for twenty-four hours; they are then taken out, and the oven being slightly reheated, they are put in again when it is rather warmer than it was before, The next day they are again taken out, and turned by slightly shaking the sieves. The oven is heated again, and they are put in a third time, when the oven is one-fourth degree hotter than it was the second time. After remaining twenty-four hours, they are taken out, and left to get quite cold. They are then rounded, an operation which is performed by turning the stone in the plum without breaking the skin, and pressing the two ends together between the thumb and finger. They are then again put upon the sieves, which are placed in an oven, from which the bread has been just drawn. The door of the oven is closed, and the crevices are stopped round it with clay or dry grass. An hour afterwards,

the plums are taken out, and the oven is again shut with a cup of water in it, for about two hours. When the water is so warm as just to be able to bear the finger in it, the prunes are again placed in the oven, and left there for twenty-four hours, when the operation is finished, and they are put loosely into small, long, and rather deep boxes, for sale. The common sorts are gathered by shaking the trees; but the finer kinds, for making French plums, must be gathered in the morning, before the rising of the sun, by taking hold of the stalk, between the thumb and finger, without touching the fruit, and laid gently on a bed of vine-leaves in a basket. When the baskets are filled, without the plums touching each other, they are removed to the fruit room, where they are left for two or three days exposed to the sun and air; after which the same process is employed for the others; and in this way the delicate bloom is retained on the fruit, even when quite dry.

Propagation and culture. The plum is usually propagated in this country by sowing the seeds of any common free growing variety, (avoiding the damsons which are not readily worked,) and budding them when two years old, with the finer sorts. The stones should be planted as soon as gathered, in broad drills, (as in planting peas,) but about an inch and a half deep. In good soil the seedings will reach eighteen inches or two feet in height, the next season, and in the autumn or the ensuing spring, they may be taken from the seed beds, their tap roots reduced, and all that are of suitable size, planted at once in the nursery rows, the smaller ones being thickly bedded until after another season's growth.

The stocks planted out in the nursery will, ordinarily, be ready for working about the ensuing midsummer, and, as the plum is quite difficult to bud in this dry climate, if the exact season is not chosen, the budder must watch the condition of the trees, and insert his buds as early as they are sufficiently firm,—say, in this neighbourhood, about the 10th of July. Insert the buds, if possible, on the north side of the stock, that being more protected from the sun, and tie the bandage rather more tightly than for other trees.

The English propagate very largely by layers three varieties of the common plum—the *Muscle*, the *Brussels* and the *Pear* Plum, which are almost exclusively employed for stocks with them. But we have not found these stocks superiour to the seedlings raised from our common plums, (the Blue Gage, Horse-plum, &c.,) so abundant in all our gardens. For dwarfing, the seedlings of the Mirabelle are chiefly employed.

Open standard culture, is the universal mode in America, as the plum is one of the hardiest of fruit trees. It requires little or no pruning, beyond that of thinning out a crowded head, or taking away decayed or broken branches, and this should be

done before mid-summer, to prevent the flow of gum. Old trees that have become barren, may be renovated by heading them in pretty severely, covering the wounds with our solution of gum shellac, and giving them a good top dressing at the roots.

Soil. The plum will grow vigorously in almost every part of this country, but it only bears its finest and most abundant crops in heavy loams, or in soils in which there is a considerable mixture of clay. In sandy soils, the tree blossoms and sets plentiful crops, but they are rarely perfected, falling a prey to the curculio, an insect that harbours in the soil, and seems to find it difficult to penetrate or live in one of a heavy texture, while a warm, light, sandy soil, is exceedingly favourable to its propagation. It is also undoubtedly true, that a heavy soil is naturally the most favourable one. The surprising facility with which superior new varieties are raised merely by ordinary reproduction from seed, in certain parts of the valley of the Hudson, as at Hudson, or near Albany, where the soil is quite clayey, and also the delicious flavour and great productiveness and health of the plum tree there almost without any care, while in adjacent districts of rich sandy land it is a very uncertain bearer, are very convincing proofs of the great importance of clayey soil for this fruit.

Where the whole soil of a place is light and sandy, we would recommend the employment of pure yellow loam or yellow clay, in the place of manure, when preparing the border or spaces for planting the plum. Very heavy clay, burned slowly by mixing it in large heaps with brush or faggots, is at once an admirable manure and alterative for such soils. Swamp muck is also one of the best substances, and especially that from salt water marshes.

Common salt we have found one of the best fertilizers for the plum tree. It not only greatly promotes its health and luxuriance, but from the dislike which most insects have to this substance, it drives away or destroys most of those to which the plum is liable. The most successful plum grower in our neighbourhood, applies, with the best results, half a peck of coarse salt to the surface of the ground under each bearing tree, annually, about the first of April.

Insects and diseases. There are but two drawbacks to the cultivation of the plum in the United States, but they are in some districts so great as almost to destroy the value of this tree. These are the *curculio*, and the *knots*.

The curculio, or plum-weevil, (*Rhynchænus Nenuphar*,) is the uncompromising foe of all smooth stone fruits. The cultivator of the Plum, the Nectarine, and the Apricot, in many parts of the country, after a flattering profusion of snowy blossoms and an abundant promise in the thickly set young crops of fruit, has the frequent mortification of seeing nearly all, or

indeed, often the whole crop, fall from the trees when half or two-thirds grown.

If he examines these falling fruits, he will perceive on the surface of each, not far from the stalk, a small semi-circular scar. This star is the crescent-shaped insignia of that little Turk, the curculio; an insect so small, as perhaps, to have escaped his observation for years, unless particularly drawn to it, but which nevertheless appropriates to himself the whole product of a tree, or an orchard of a thousand trees.

The habits of this curculio, or plum-weevil, are not yet fully and entirely ascertained. But careful observation has resulted in establishing the following points in its history.

The curculio, and its mark.

The plum-weevil is a small, dark brown beetle, with spots of white, yellow, and black. Its length is scarcely one-fifth of an inch. On its back are two black humps, and it is furnished with a pretty long, curved throat and snout, which, when it is at rest, is bent between the forelegs. It is also provided with two wings with which it flies through the air. How far this insect flies is yet a disputed point, some cultivators affirming that it scarcely goes farther than a single tree, and others believing that it flies over a whole neighbourhood. Our own observation inclines us to the belief that this insect emigrates just in proportion as it finds in more or less abundance the tender fruit for depositing its eggs. Very rarely do we see more than one puncture in a plum, and, if the insects are abundant, the trees of a single spot will not afford a sufficient number for the purpose; then there is little doubt (as we have seen them flying through the air,) that the insect flies farther in search of a larger supply. But usually, we think it remains nearly in the same neighbourhood, or migrates but slowly.

About a week or two after the blossoms have fallen from the trees, if we examine the fruit of the plum in a district where this insect abounds, we shall find the small, newly formed fruit, beginning to be punctured by the proboscis of the plum-weevil. The insect is so small and shy, that unless we watch closely it is very likely to escape our notice. But if we strike or shake the tree suddenly, it will fall in considerable numbers on the ground, drawn up as if dead, and resembling a small raisin, or, perhaps more nearly, a ripe hemp seed. From the first of April until August, this insect may be found, though we think its depredations on fruit, and indeed its appearance in any quantity, is confined to the months of May and June in this climate. In places where it is very abundant, it also attacks to some extent the cherry, the peach, and even the apple.

Early in July the punctured plums begin to fall rapidly from the tree. The egg deposited in each, at first invisible, has become a white grub or larva, which slowly eats its way towards the stone or pit. As soon as it reaches this point, the fruit falls to the ground. Here, if left undisturbed, the grub soon finds its way into the soil.

There, according to most cultivators of fruit, and to our own observations, the grubs or larvæ remain till the ensuing spring, when in their perfect form they again emerge as beetles and renew their ravages on the fruit. It is true that Harris, and some other naturalists, have proved that the insect does sometimes undergo its final transformation and emerge from the ground in twenty days, but we are inclined to the opinion that this only takes place with a small portion of the brood, which, perhaps, have penetrated but a very short distance below the surface of the soil. These making their appearance in midsummer, and finding no young fruit, deposit their eggs in the young branches of trees, etc. But it is undeniable that the season of the plum-weevil is early spring, and that most of the larvæ which produce the annual swarm, remain in the soil during the whole period intervening since the fall of the previous year's fruit.

There are several modes of destroying this troublesome insect. Before detailing them, we will again allude to the fact, that we have never known an instance of its being troublesome in a heavy soil. Almost always the complaint comes from portions of country where the soil is light and sandy. The explanation of this would seem to be that the compact nature of a clayey soil is not favourable to the passage or life of this insect, while the warm and easily permeable surface of sandy land nurses every insect through its tender larva state. Plum trees growing in hard trodden court-yards, usually bear plentiful crops. Following these hints some persons have deterred the plum-weevil by paving beneath the trees; and we have lately seen a most successful experiment which consisted in spreading beneath the tree as far as the branches extended a mortar made of stiff clay about the thickness of two or three inches—which completely prevented the descent of the insect into the earth. This is quickly and easily applied, and may therefore be renewed every season until it is no longer found necessary.

The other modes of destroying the plum-weevil are the following:—

1. *Shaking the tree and killing the beetles.* Watch the young fruit, and you will perceive when the insect makes its appearance, by its punctures upon them. Spread some sheets under the tree, and strike the trunk pretty sharply several times with a *wooden mallet.* The insects will quickly fall, and should be killed immediately. This should be repeated daily for a week,

or so long as the insects continue to make their appearance. Repeated trials have proved, beyond question, that this rather tedious mode, is a very effectual one if persisted in.* Coops of chickens placed about under the trees at this season will assist in destroying the insects.

2. *Gathering the fruit and destroying the larvæ.* As the insect, in its larva or grub form, is yet within the plums when they fall prematurely from the tree, it is a very obvious mode of exterminating the next year's brood to gather these fallen fruits, daily, and feed them to swine, boil, or otherwise destroy them. In our own garden, where several years ago we suffered by the plum-weevil, we have found that this practice, pursued or a couple of seasons, has been pretty effectual. Others have reported less favourably of it; but this, we think, arose from their trying it too short a time, in a soil and neighbourhood where the insect is very abundant, and where it consequently had sought extensively other kinds of fruit besides the plum.

A more simple and easy way of covering the difficulty, where there is a plum orchard or enclosure, is that of turning in swine and fowls during the whole season, when the stung plums are dropping to the ground. The fruit, and the insects contained in it, will thus be devoured together. This is an excellent expedient for the farmer, who bestows his time grudgingly on the cares of the garden.

3. Application of lime and sulphur. Thos. W. Ludlow, Jr., of Yonkers, N. Y., has been very successful with this remedy, and we give his receipt, "which is by syringing the trees after the fall of the blossoms, with a mixture of whitewash and flour of sulphur in the proportion of 18 double handfuls of sulphur to a barrel of tolerably thick whitewash, made of unslacked lime. The sediment of this mixture will answer for a second and third barrel, merely filled with water and well stirred: apply the mixture three times a week for four weeks."

Mr. Ludlow informs us that on the trees where the application has been made no knots or black warts have made their appearance.

The knots or black gum. In some parts of the country this is

* Merely *shaking* the tree is not sufficient. The following memorandum, as additional proof, we quote from the Genesee Farmer. "Under a tree in a remote part of the fruit garden, having spread the sheets, I made the following experiment. On *shaking* the tree well I caught five curculios; on jarring it with the hand I caught twelve more; and on striking the tree with a stone, eight more dropped on the sheets. I was now convinced that I had been in error; and calling in assistance, and using a hammer to jar the tree violently, we caught in less than an hour, more than two hundred and sixty of these insects." We will add to this, that to prevent injury to the tree a large wooden mallet should be substituted for a hammer, and it is better if a thick layer of cloth is bound over its head.

a most troublesome disease, and it has, in neighbourhoods where it has been suffered to take its course, even destroyed the whole race of plum trees.

The knots is a disease attacking the bark and wood. The former at first becomes swollen, afterwards bursts, and, finally, assumes the appearance of large, irregular, black lumps, with a hard, cracked, uneven surface, quite dry within. The passage of the sap upwards, becomes stopped by the compression of the branch by the tumour, and, finally, the poison seems to disseminate itself by the downward flow of the sap through the whole trunk, breaking out in various parts of it.

The sorts of plum most attacked by this disease, are those with purple fruit, and we have never known the green or yellow fruited varieties infected, until the other sorts had first become filled with the knots. The common horse plum, and damson, appear to be the first to fall a prey to it, and it is more difficult to eradicate it from them, than from most other sorts. The common Morella cherry is, also, very often injured by the same disease in Pennsylvania.

There is yet some doubt respecting the precise cause of these knotty excrescences, though there is every reason to think it is the work of an insect. Professor Peck and Dr. Harris believe that they are caused by the same curculio or plum-weevil that stings the fruit; the second brood of which, finding no fruit ready, choose the branches of this tree and the cherry. This observation would seem to be confirmed by the fact that the grubs or larvæ of the plum-weevil are frequently found in these warts, and that the beetles have been seen stinging the branches.

On the other hand, the following facts are worthy of attention. First, in some parts of the country, where the curculio has been troublesome for many years, the knots have never been known. Secondly, in many cases, the knots have been abundant on plum trees, when the fruit was entirely fair and uninjured by the curculio, even upon the same branches.

These facts seem so irreconcilable with the opinion that the curculio produces both these effects, that we rather incline at present to the belief, that though the curculio deposits its eggs in the tumours on the branches while they are yet soft and tender, yet it is not to the curculio, but to some other insect or cause, that we owe this unsightly disease.

Practically, however, this is of little account. The experience of many persons, besides ourselves, has proved, most satisfactorily, that it is easy to extirpate this malady, if it is taken in season, and unremittingly pursued. As early as possible in the spring, the whole of the infected trees should be examined, and every branch and twig that shows a tumour, should be cut off, and immediately burned. Whatever may be the insect, we

thus destroy it, and, as experience has taught us that the malady spreads rapidly, we will thus effectually prevent its increase. If the trees are considerably attacked by it, it will probably be necessary to go over them again, about the middle of May, but, usually, once a year will be sufficient. If any of the trees are very much covered with these knots, it is better to head back the shoots severely, or dig them up and burn them outright, and it will be necessary to prevail upon your neighbours, if they are near ones, to enter into the plan, or your own labours will be of little value. Pursue this simple and straightforward practice for two or three seasons, (covering any large wounds made, with the solution of gum shellac,) and the knots will be found to disappear, the curculio to the contrary notwithstanding.

Varieties. There are now a pretty large number of fine plums, and some most important additions have been made by the seedlings raised in this country. The Green Gage still stands at the head of the list for high flavour, though several other sorts are nearly or quite equal to it. The Washington, the Jefferson, and the Madison, are among the largest and most beautiful; and Coe's Golden Drop, and Reine Claude de Bevay, are very desirable for their late maturity.

In describing plums, the surface of the young wood, when just ripened, is an important character; as it is *smooth*, in some varieties, and *downy*, or covered with soft hairs, in others. In some varieties, the flesh *parts* from the stone, while in others it *adheres*. And, finally, the depressed line or channel which runs down one side of the exterior surface of the plum, is called the *suture*, and the prominence or absence of this feature enables us to distinguish many kinds at first sight.

CLASS I.

Contains those of best quality and most generally approved.

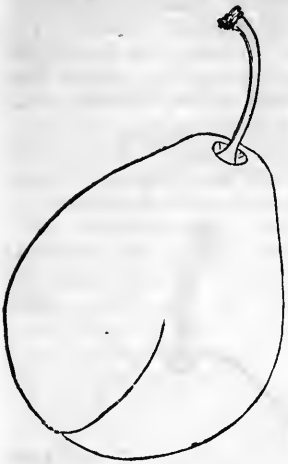
Bingham. Man. Ken. Thomp.

A native fruit, originally from Pennsylvania, and named after the Bingham family.

Fruit large, handsome, productive, and excellent. Branches downy. Fruit an inch and three fourths long, oval, rather widest towards the stalk. Skin deep yellow, somewhat spotted with rich red on the sunny side. Stalk slightly inserted. Flesh yellow, adhering to the stone, juicy, and of rich and delicious flavour. Last of August and first of September.

Blue Imperatrice. Thomp. P. Mag.

Impératrice. *Lind. Mill.*
Véritable Impératrice.
Violette.
Impératrice Violette. *O. Duh.*



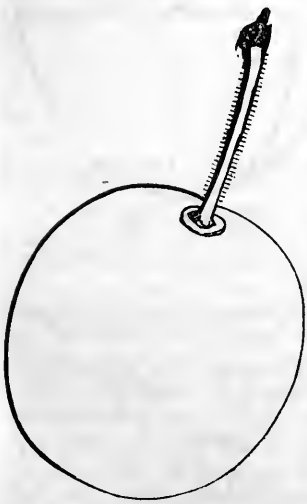
Blue Imperatrice.

The true Blue Imperatrice is an admirable plum, one of the finest of the late plums, hanging for a long time on the tree, and may be kept in the fruit room a considerable period after being gathered. It is rich, sugary and excellent. The branches are long, smooth, and slender, and the smaller twigs start out at nearly right angles with the main branches.

Fruit of medium size, obovate, tapering most towards the stalk. Stalk nearly an inch long, set in a slight hollow. Skin deep purpled, covered with a thick blue bloom. Flesh greenish-yellow, pretty firm, rather dry, but quite rich and sugary, adhering closely to the stone. Ripens in October, and will hang, in sheltered situations, till the middle of November.

Bleecker's Gage. Man.

German Gage.



Bleecker's Gage.

A fruit of the first quality, and the most popular plum in the northern and western portion of this state, being not only excellent, but remarkably hardy, and a good and regular bearer. It was raised by the late Mrs. Bleecker, of Albany, about 30 years ago, from a prune pit given her by the Rev. Mr. Dull, of Kingston, N. Y., which he received from Germany. The original tree still stands in her garden.

It ripens the last of August, from a week to two weeks later than our Yellow Gage. Branches downy. Fruit of medium size, roundish-oval, very regular. Suture scarcely perceptible. Stalk quite long, an inch or more, straight and pretty stout, downy,

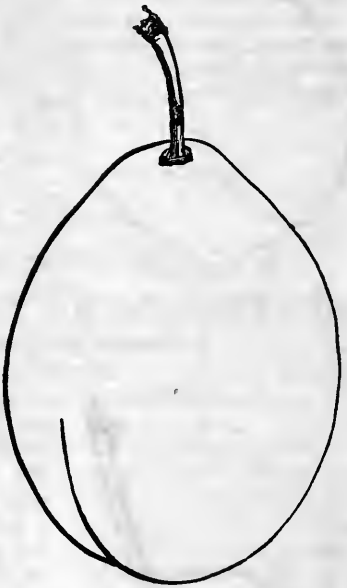
slightly inserted. Skin yellow, with numerous imbedded white specks, and a thin white bloom. Flesh yellow, rich, sweet, and luscious in flavour. Separates almost entirely from stone, which is pointed at both ends. Leaves dark green. Easily distinguished from Yellow Gage by its longer and stouter stalk.

Coe's Golden Drop. Thomp. Lind. P. Mag.

Bury Seedling.
Coe's Imperial.
New Golden Drop.
Fair's Golden Drop.
Golden Gage.
Waterloo, *of some.*

Raised by Mr. Coe, an English gardener, near London. Tree moderately vigorous, productive; requires a warm late season to ripen it north of 41° latitude.

Branches smooth. Fruit of the largest size, oval, with a well-marked suture, on one side of which it is a little more swollen than the other, the outline narrowing towards the stalk. Skin light-yellow, with a number of rich, dark red spots on the sunny side. Stalk nearly an inch long, rather stiff, set on the end of the fruits. Flesh yellow, rather firm, adhering closely to the stone, which is quite pointed. Flavour rich, sweet, and delicious. Last of September.



Coe's Golden Drop.

De Delice.

A new foreign variety of excellence. Tree moderately vigorous and productive.

Branches smooth. Fruit medium, roundish-oval, with a slight neck, a little swollen on one side, suture small. Skin green, marbled and shaded with violet, and covered with a thin bloom. Stalk three-fourths of an inch long, rather stout, very slightly inserted. Flesh, orange-yellow, juicy, melting, with a rich, sugary, luscious flavour, adheres slightly to the stone. Ripens the last of September, and continues a long time in use.

Denniston's Superb.

An excellent seedling, from Mr. Denniston's famous plum orchard, near Albany, N. Y., of the Green Gage family, a third larger than the latter variety, and nearly as rich in flavour.

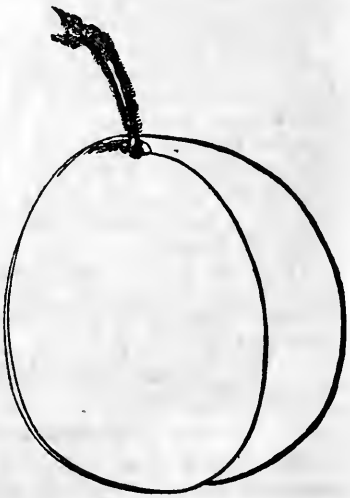
Branches downy. Fruit round, a little flattened, and having a distinct suture, often extending quite round the fruit. Skin pale yellowish-green, marked with a few large purple blotches and dots, and overspread with a thin bloom. Stalk rough, three-fourths of an inch long, set in a cavity of moderate size. Flesh very thick, (the stone being small,) moderately juicy, with a rich vinous flavour. Stone parts readily, and is roundish and thick. Middle and last of August.

Diaprée Rouge. Thomp. Poit. O. Duh.

Roche Carbon.
Mimms.
Imperial Diadem. } *ac. to Thomp.*

The Diaprée Rouge, or Red Diaper, is a very large and handsome French plum. Mr. Thompson considers it synonymous with a fine English variety, better known here as the Mimms, or Imperial Diadem. As the Mimms plum has been fully tested by us, and proves to be a *first rate* fruit in all respects in this climate, we give the following description and outline drawn from the fruit, as produced by us.

A rather slow grower, branches almost smooth. Fruit large, obovate. Skin of a reddish-purple, with a few golden specks, and a light blue bloom easily rubbed off. Stalk three-fourths of an inch long, slender, hairy, slightly inserted. Flesh pale-green, juicy, very melting, rich, and delicious; separating from the stone, which is quite small. Last of August.



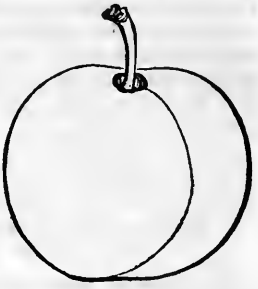
Red Diaper.

GREEN GAGE. Lang. Lind. Thomp.

Bruyn Gage.
Bradford Gage.
Wilmot's Green Gage.
———New Green Gage. } of some English gardens.
———Late Green Gage. }
Isleworth Green Gage.
Burgnon Gage.

Reine Claude.
Grosse Reine Claude.
Grosse Reine.
Damas Vert. } of various French gardens.
Sucrin Vert.
Vert Bonne.
Abricot Vert.
Dauphine.

The Green Gage is universally admitted to hold the first rank in flavour among all plums, and is everywhere highly esteemed. In France, this variety is generally known as the Reine Claude, having, it is said, been introduced into that country by Queen Claude, wife of Francis I. During the last century, an English family by the name of *Gage*, obtained a number of fruit trees among the monks of Chartreuse, near Paris. Among them was a tree of this plum, which, having lost its name, was called by the gardener the Green Gage. It is pronounced, by Lindley, the best plum in England, and we must admit that we have no superior to it here.



Green Gage.

The Green Gage is a very short jointed, slow-growing tree, of spreading and rather dwarfish habit. It is an abundant and pretty regular bearer, though the fruit is a little liable to crack upon the tree in wet seasons.

Branches smooth. Buds with large shoulders. Fruit round, rather small, seldom of medium size. Suture faintly marked, but extending from the stalk to the apex. Skin green, or yellowish-green at full maturity, when it is often a little dotted or marbled with red. Stalk half to three-fourths of an inch long, slender, very slightly inserted. Flesh pale green, exceedingly melting and juicy, and usually separates freely from the stone. Flavour, at once, sprightly and very luscious. Ripe about the middle of August.

There are several seedling varieties of this plum in various parts of this country—but none superior or scarcely equal to the old. That known as the Bruyn Gage, which has been disseminated from the garden of A. Bruyn, Esq., of Kingston, N. Y., is only the true Reine Claude, brought by Chancellor Livingston from France.

HOWARD'S FAVOURITE.

Raised by E. Dorr, Albany, N. Y. Tree a vigorous grower, continues to ripen for a long time, and the fruit adheres with

remarkable tenacity to the tree; very productive. Fruit large, necked. Stalk long, inserted in a ring. Colour rich yellow, dotted and shaded with carmine; bloom lilac. Skin thick; flesh rather coarse, but very sugary, rich, and delicious—somewhat adherent to the stone. Ripe in September.—(E. Dorr in Cult.)

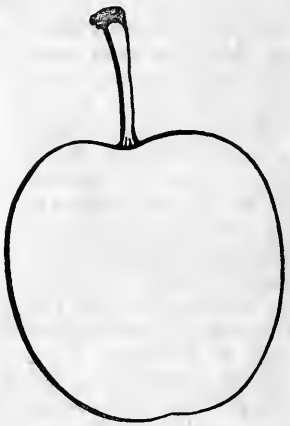
Hudson Gage.

Raised by L. U. Lawrence, of Hudson, N. Y. Tree thrifty, productive.

Branches downy. Fruit of medium size, oval, a little enlarged on one side of the obscure suture. Skin yellow, clouded with green streaks under the skin, and covered with a thin white bloom. Stalk short, little more than half an inch long, inserted in a moderate hollow. Flesh greenish, very juicy and melting, with a rich, sprightly, excellent flavour. It separates from the stone, (adhering very slightly,) which is quite small. First week in August, two weeks before the Washington.

Imperial Gage. Pom. Man. Ken.

Flushing Gage. *Thomp. Floy.*
White Gage, *of Boston.*
Prince's Imperial Gage.
Superiour Green Gage.



Imperial Gage.

The Imperial Gage has long enjoyed the reputation of one of the most excellent and productive of plums. It was raised at Prince's Nursery, Flushing, N. Y., from the seed of the Green Gage, and the fact of the fruit of a single tree near Boston having produced fruit to the value of nearly fifty dollars, annually, has often been repeated as a proof of the profit of its cultivation for market. It should be remarked, however, as an exception to the general rule, that it is peculiarly fitted for *dry*, *light* soils, where many sorts drop their fruit, and that in rich heavy soils, like those of Albany, the fruit is often insipid.

The tree grows freely and rises rapidly, and has long dark shoots and leaves, slightly downy. Fruit rather above medium size, oval, with a distinct suture. Stalk nearly an inch long, slightly hairy, and pretty stout, inserted in an even hollow. Skin pale green, until fully ripe, when it is tinged with yellow,

showing a *peculiar marbling of dull green stripes*, and covered with copious white bloom. Flesh greenish, very juicy, melting, and rich, with a very sprightly, agreeable flavour. In some situations it adheres to the stone, but it generally separates pretty freely. The latter is oval, and pointed at both ends. It is a great and regular bearer, and the fruit is therefore improved by thinning, when half grown. Ripens about the first of September, or a week later than the Washington.

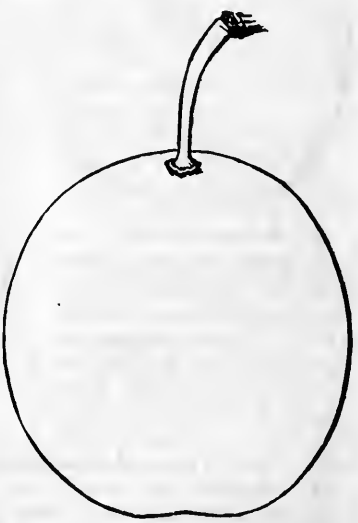
Imperial Ottoman. Thomp.

A very neat, early plum, of good flavour, and a prolific bearer. It has the reputation of having been brought from Turkey, but it is uncertain whether this is correct.

Branches slightly downy. Fruit scarcely below medium size, roundish, between Green Gage and the American Yellow Gage in appearance, and having a suture on one side, from the stalk half way down. Stalk downy, slender, curved, three-fourths of an inch long, inserted in a very slight cavity. Skin dull yellow, clouded with darker streaks, and covered with a thin bloom. It adheres considerably to the stone, which is pointed at both ends. The flesh is juicy, sweet, melting, and of very good flavour. It ripens the last of July, or four or five days before the American Yellow Gage.

Jefferson.

If we were asked which we think the most desirable and beautiful of all dessert plums, we should undoubtedly give the name of this new variety. When fully ripe, it is nearly, shall we not say *quite*—equal in flavour to the Green Gage, that unsurpassable standard of flavour. But when we contrast the small and rather insignificant appearance of the Green Gage, with the unusual size and beauty of the Jefferson, we must admit that it takes the very first rank. As large as the Washington, it is more richly and deeply coloured, being dark yellow, uniformly and handsomely marked with a fine ruddy cheek. It is about ten days or a fortnight later than the Washington, ripening the last of



Jefferson.

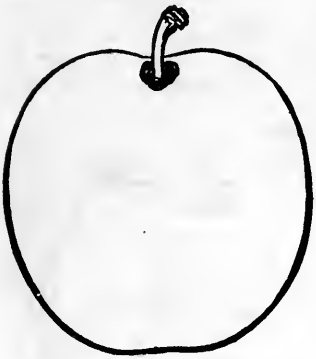
August, when it has the rare quality of hanging long on the tree, gradually improving in flavour. It does not, like many sorts, appear liable to the attacks of wasps, which destroy so many of the light coloured plums as soon as they arrive at maturity.

We received the Jefferson Plum a few years ago, from the late Judge Buel, by whom it was raised and named. It is a good and regular bearer, and the crop is very handsome on the tree.

Branches slightly downy, leaves oval, flat. Fruit large, oval, slightly narrowed on one side, towards the stalk. Skin golden yellow, with a beautiful purplish-red cheek, and covered with a thin white bloom. Stalk an inch long, pretty stout, very slightly inserted. Suture indistinct. Flesh deep orange, (like that of an Apricot,) parts freely, and almost entirely from the stone, which is long and pointed; very rich, juicy, luscious, and high flavoured. Hangs a fortnight on the tree.

Lawrence's Favourite.

Lawrence's Gage.



Lawrence's Favourite.

Lawrence's Favourite is a fruit of high merit, raised by Mr. L. U. Lawrence, of Hudson, N. Y., from a seed of the Green Gage.

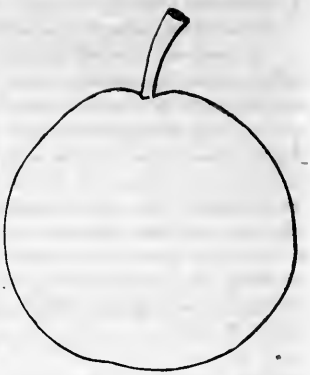
The general appearance of the fruit is like that of its parent, except that it is two or three times as large. It hangs well on the tree, and its remarkable size, flavour and productiveness, will soon give it a place in every garden, and we think it deserving our highest commendation.

Lawrence's Favourite forms an upright tree of thrifty growth, with dark green leaves, (which are rather below the medium size,) and upright growing short-jointed shoots. Young branches downy.

Fruit large, heavy, roundish, a little flattened at either end. Skin dull yellowish-green, clouded with streaks of a darker shade beneath, and covered with a light bluish-green bloom. The upper part of the fruit, when fully ripe, is covered with a *peculiar brownish net-work*, and a few reddish dots. Stalk short, only half an inch long, slender, inserted in a narrow cavity. Flesh greenish, resembling that of the Green Gage, remarkably juicy, and melting, perhaps scarcely so rich as the latter, but with a very rich, sprightly, vinous flavour, and one of the most delicious of plums. Stone five-eighths of an inch long, flattened; the flesh sometimes adheres a little, when not fully ripe, but then separates freely. Ripens at the middle of August.

Madison.

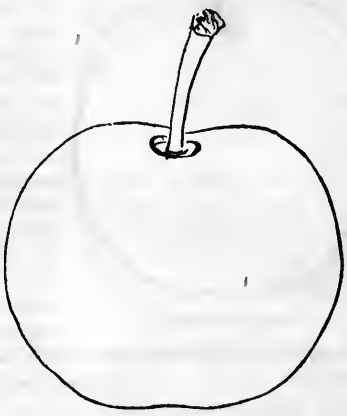
Raised by Isaac Deniston, Albany, N. Y. Tree very vigorous and productive, branches smooth. Fruit medium size, nearly globular; suture shallow, extending nearly around the fruit. Skin golden yellow, with few splashes of green, dotted and shaded with crimson on the sunny side, and lightly covered with a delicate bloom. Stalk stout and short, inserted in a very small cavity. Flesh golden yellow, rather coarse, moderately juicy, with a rich sugary flavour, adheres slightly to the stone. Ripens the last of September.



Madison Plum.

McLaughlin. Hort.

Raised by James McLaughlin, Bangor, Me. Tree hardy, vigorous, and productive, a valuable variety, nearly or quite equal to Green Gage. Branches smooth. Fruit large, nearly round, oblate, flattened at both ends, suture slight. Stalk three-fourths of an inch long, inserted in a small cavity by a ring. Skin thin and tender, yellow, dotted and marbled with red on the sunny side, and covered with a thin bloom. Flesh dull yellow, rather firm, juicy, very sweet and luscious. It adheres to the stone. Ripens last of August.



McLaughlin's Plum.

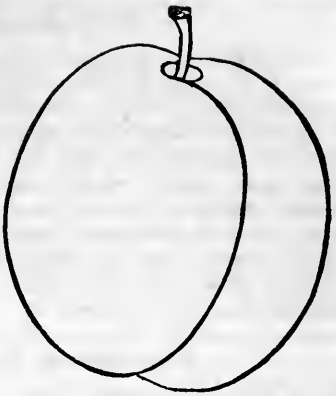
Orleans, Smith's. Pom. Man.

Violet Perdrigon. } *incorrectly, of some*
Red Magnum Bonum. } *American gardens.*

Smith's Orleans, the largest and finest of this class of plums, is a native variety raised from the old Orleans about twenty years ago by Mr. Smith, of Gowanus, Long Island. It is one of the most vigorous of all plum trees, making straight, glossy, red-

dish-purple shoots, with dark green, crimped leaves. Very productive.

Bearing branches smooth, or nearly so. Fruit large, often of the largest size, oval, rather widest towards the stalk, a little irregular, with a strongly marked suture on one side. Stalk quite small and slender, little more than half an inch long, inserted in a deep narrow cavity. Skin reddish-purple, covered with a deep blue bloom. Flesh deep yellow, a little firm, very juicy, with a brisk, rich vinous flavour, (not sweet and cloying,) and adheres to the stone. Ripens from the 20th to the last of August, and hangs for some time on the tree, becoming very dark in colour.



Smith's Orleans.

Parsonage.

Origin, Rhinebeck, Dutchess Co., N. Y. Tree very vigorous, upright, productive. A new excellent variety, worthy of cultivation.

Branches smooth. Fruit medium to large, oval. Skin pale yellow, lightly splashed with green. Stalk of medium length, inserted in a small depression. Flesh yellow, juicy, with a rich sugary flavour. It separates freely from the stone. Ripens first of September.

Peach Plum. Noisette, Poiteau.

Prune Peche.

Tree upright, vigorous, only a moderate bearer. Tree rather tender at the North.

Branches smooth. Fruit very large, shaped more like a peach than a plum, roundish, much flattened at both ends, suture shallow but strongly marked, apex much depressed. Skin light brownish red, sprinkled with obscure dark specks, and covered with a pale bloom. Stalk short, rather stout, set in a shallow narrow cavity. Flesh pale yellow, a little coarse grained, but juicy, and of pleasant sprightly flavour when fully ripe. Separates freely from the stone. Ripens from the twentieth to the last of July.

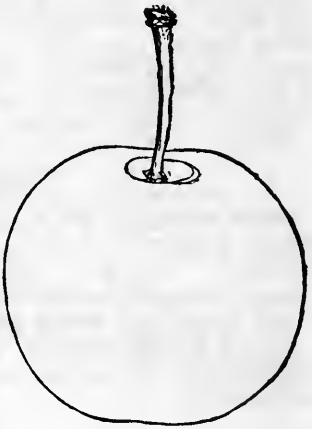
Prune d'Agen. Nois.

D'Agen.
Prune d'Ast. } *Thomp.*
Robe de Sergent.
Agen Datte.
St. Maurin.
Prune de Brignole, (*of some.*)

A foreign variety of excellent quality. Tree of moderate growth; branches smooth, very productive. Fruit medium size, oval, slightly necked, suture small. Skin violet purple, covered with a thick bloom and numerous small dots. Stalk nearly an inch long, a little curved, set in a small depression. Flesh greenish yellow, juicy, sugary, rich, and delicious, slightly adherent to the stone. Ripens middle and last of September.

Purple Gage. Lind. Pom. Mag.

Rhine Claude Violette. *Thomp. Nois.*
Die Violette Köning Claudie. *Sickler.*
Violet Queen Claude.



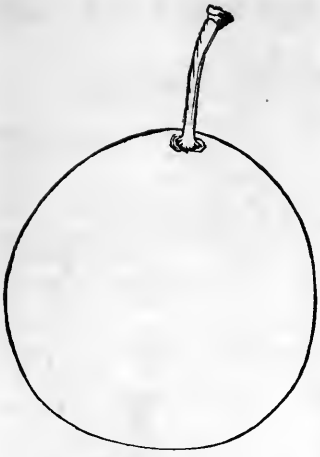
Purple Gage.

The Purple Gage holds the first place for high flavour among purple plums abroad. Although it is well known in France under the title of the Reine Claude Violette, as in England under that of the Purple Gage, yet its native country is not precisely determined.

Branches smooth, much like those of the Green Gage. Fruit medium sized, shaped like the Green Gage, roundish, a little flattened. Suture shallow, but distinct. Stalk an inch long, rather thick, set in a narrow cavity. Skin a little thick, violet, dotted with pale yellow, and covered with light blue bloom. Flesh greenish-yellow, rather firm, rich, sugary, and very high flavoured. Separates from the stone, which is oval and compressed. Ripens rather late, and will hang on the tree—shrivelling a little, but not cracking—all the month of September.

Purple Favourite.

This delicious fruit received its name from us some years ago. The tree from which the stock now in this country was derived, stood for many years (until it died of old age,) in the centre of the principal garden here, and was planted by the



Purple Favourite.

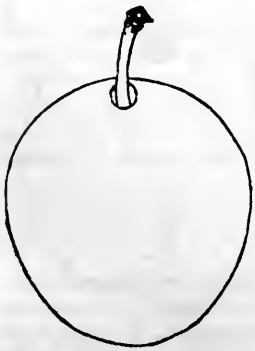
father of the author. Its origin we were never able to learn, and we have not been able during all our pomological researches and comparisons, to identify it with any other sort.

The Purple Favourite, when in perfection, is not surpassed by any other plum in luscious flavour. It is more juicy and melting than the Purple Gage, and has some affinity to the Diaprée Rouge, or Mimms. It should have a place in every garden, as it bears well, and is very hardy. In the nursery it has the dwarfish habit of the Green Gage, but more slender shoots.

Branches nearly smooth, short jointed. Fruit medium size, often large, roundish-obovate. Suture none. Skin light brown in the shade, brownish-purple in the sun, dotted with numerous golden specks, and dusted with thin, light blue bloom. Stalk three-fourths to one inch long, set in a very slight depression. Flesh pale greenish, very juicy, tender, melting, with a luscious sweetness. Parts freely from the stone, which is very small and roundish. Begins to ripen about the 20th of August, and will hang for a fortnight on the tree.

This is known, incorrectly, as the Purple Gage, in some parts of the country.

RED GAGE. Pom. Man.



Red Gage.

An American plum, of delicious flavour, very hardy, and a prodigious bearer. It is a seedling raised from the Green Gage, by the elder Wm. Prince, of the Flushing Nurseries, in 1790. It grows very vigorously, and is distinguished, when young, by its deep green, crimped foliage.

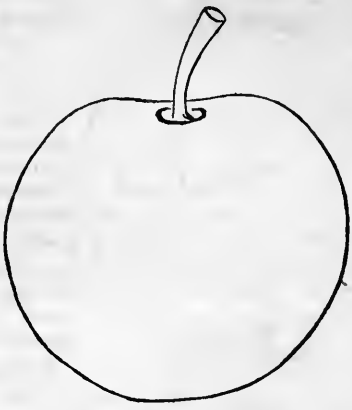
Branches dark reddish, smooth. Fruit about as large as the Green Gage, but more oval, regularly formed. Skin brownish or brick red, with little bloom. Stalk rather slender, set in a narrow cavity. Flesh greenish-amber, very juicy, melting, sugary, and lus-

cious. It parts freely from the stone, which is small. Middle of August.

Reine Claude de Bevay. Rev. Hort.

Raised by Major Esperin. A very vigorous grower, very productive, and a valuable addition to the late varieties.

Branches smooth. Fruit large, roundish, slightly depressed. Skin greenish-yellow, with stripes or splashes of green, covered with a thin bloom. Suture medium, apex dimpled. Stalk short and stout, set in a small cavity. Flesh yellow, juicy, melting, with a sugary, rich, excellent flavour. Separates from the stone. Ripens last of September, and first of October.



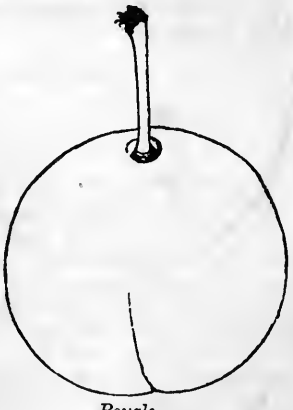
Reine Claude De Bevay.

Royale. O. Duh. Thomp. Nois.

La Royale. *Lind. Hooker.*

The Royale, a French variety, is undoubtedly one of the richest plums. It is peculiarly crisp, with a very high flavour, and is remarkable for the exceedingly thick coat of bloom which covers the skin. The tree is a slow grower, forms a bushy, spreading head, and its very downy shoots have a gray or whitish appearance. It bears regularly, but moderately, and, though not fit for the orchard, it is a first rate garden fruit.

Fruit of medium size, often quite large; round, lessening a little towards the stalk. Suture distinct at the apex on one side only. Skin reddish-purple, dotted with light brown specks, and covered with a thick pale



Royale.

bloom, which adheres closely. Stalk three-fourths of an inch long, downy, set in a narrow cavity. Flesh dull yellow, rather firm but melting, very juicy, with an exceedingly rich, vinous flavour; it separates from the stone, which is small, roundish, pointed at both ends. Ripe the last of August, and will hang, dropping gradually, till the middle of September.

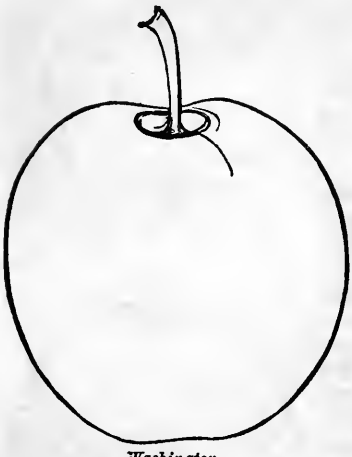
Schuyler Gage.

Originated with Gen. Schuyler, Albany, N. Y., from a seed of the Green Gage. Tree upright, very vigorous and productive. Branches grey, smooth. Fruit medium, oval, suture moderate. Skin yellow, with small green splashes, dotted, and washed with carmine on the sunny side, and covered with a thin bloom. Stalk long, curved, inserted in a small cavity. Flesh yellow, juicy, sweet, rich, and excellent. Separates from the stone. Ripens last of September, and continues a long time in use.

Washington. P. Man. Thomp. Lind.

Bolmar.
New Washington.

Bolmar's Washington.
Franklin.



Washington.

The Washington undoubtedly stands higher in general estimation in this country, than any other plum. Although not equal to the Green Gage and two or three others, in high flavour, yet its great size, its beauty, and the vigour and hardiness of the tree, are qualities which have brought this noble fruit into notice every where. The parent tree grew originally on Delancey's farm, on the east side of the Bowery, New York, but being grafted with another sort, escaped notice, until a *sucker* from it, planted by Mr. Bolmar,* a merchant in Chatham-street, came into bearing about the year 1818, and attracted universal attention by the remarkable beauty and size of the fruit. In 1821, this sort was first sent to the Horticultural Society of London by the late Dr. Hosack, and it now ranks as first in nearly all the European collections.

* Which he purchased of a market woman.

The Washington has remarkably large, broad, crumpled and glossy foliage, is a strong grower, and forms a handsome round head.

Wood light brown, downy. Fruit of the largest size, roundish-oval, with an obscure suture, except near the stalk. Skin dull yellow, with faint marblings of green, but when well ripened, deep yellow, with a pale crimson blush or dots. Stalk scarcely three-fourths of an inch long, a little downy, set in a shallow, wide hollow. Flesh yellow, firm, very sweet and luscious, separating freely from the stone. Stone pointed at each end. Ripens from about the middle to the last of August.

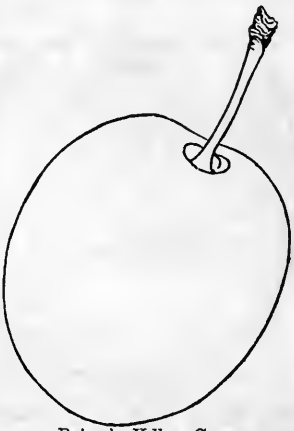
Yellow Gage, Prince's. P. Man.

American Yellow Gage, (*of some.*)
White Gage, (*of some.*)

The Yellow Gage was raised, so long ago as the year 1783, by the elder Mr. Prince, of Flushing, L. I. It is very common on the Hudson river, but we do not find any description of it in Manning or Kenrick. We have noticed that it is sometimes confounded, at Boston, with the Imperial Gage, which is really quite distinct. Its great hardiness and productiveness, joined to its rich sugary flavour, make it a favourite sort.

Branches smooth, short-jointed, with glossy leaves, and forming a large spreading head. Fruit a little above medium size, oval, rather broadest towards the stalk. Suture a mere line. Skin golden yellow, a little clouded, and covered with a copious white bloom. Stalk an inch long, inserted in a small round cavity. Flesh deep yellow, rich, sugary and melting, though sometimes rather dry; parts freely from the stone. Ripens rather early, about the first week in August.

The growth of this plum is not only very different from the Imperial Gage, but the fruit of the latter is readily distinguished by its abundant *juiciness*, its greenish colour, and the superiour sprightliness of its flavour.



Prince's Yellow Gage.

CLASS II.

Contains those of very good quality,—some new and untested, and may prove best, and others on further trial only good.

Abricote Sageret.

A seedling of Sageret. Tree very vigorous. Branches smooth. Fruit rather below medium size, globular, suture medium, extending nearly all around. Skin green, dotted, and slightly flaked with yellow. Stem three-fourths of an inch long, set in a very slight cavity, apex slightly dimpled. Flesh green, juicy, very sugary, with a rich, delicious flavour. Separates from the stone. Ripens the first half of September.

Angelina Burdett.

English, round, medium size, nearly black, spotted thickly with brown spots, very rich, juicy, and excellent. Skin thick. Free-stone, middle of September. (Riv. Cat.)

Apple Plum.

From the garden of D. U. Pratt, Chelsea, Mass. Fruit medium, roundish, flattened, a little swollen on one side, suture medium. Skin reddish-purple, with a blue bloom and light dots. Stalk short and stout, inserted in a broad, deep cavity. Flesh greenish-yellow, a little coarse, sweet, sprightly, with considerable austerity at the skin. Adheres partially to the stone. Ripens first of September.

Autumn Gage.

Roe's Autumn Gage.

Raised by Wm. Roe, Esq., of Newburgh, of good quality, a very abundant bearer.

Branches smooth. Fruit medium size, oval, rather broadest towards the stalk. Stalk three-fourths of an inch long, inserted without any depression. Skin pale yellow, covered with thin whitish bloom. Flesh greenish-yellow, separating from the stone; juicy, sweet, and of delicale, pleasant flavour. Stone long, compressed, pointed at both ends.

Belgian Purple.

Tree vigorous, branches smooth, buds prominent. Fruit medium, roundish, suture slight, one side a little swollen. Skin purple, with a bloom. Stalk rather long and slender, inserted in a cavity. Flesh greenish, a little coarse, very juicy, sweet, luscious. Adheres slightly to the stone. Ripens first of September.

Belle de Septembre.

Tree large, vigorous, and very productive. Fruit very large, oval, reddish brown, an excellent kitchen fruit. Ripe middle of October. (Riv. Cat.)

Black Damask.

Medium, roundish, a little oval, suture moderate. Stalk very short, inserted in a narrow cavity. Flesh greenish, inclining to yellow, juicy, with a sweet, rich flavour; a half cling. Ripe from the middle to last of August. (Manning in Hov. Mag.)

Bradshaw. Hov. Mag.

Black Imperial, *Ken.*

Tree remarkably vigorous, erect, regular in growth, and very productive. Fruit large, oval, obovate, with a slight suture on one side. Colour dark violet red, with an azure bloom. Stalk of medium length. Flesh yellowish-green, a little coarse, but juicy and sweet. Adheres to the stone. Ripens the middle of August. (Barry in Hort.)

Bricetta.

Tree moderately vigorous, productive. Fruit medium, roundish-oval. Skin yellow, with spots of red. Stalk of medium length, set in a small cavity. Flesh yellow, rather firm, very juicy, sugary, and excellent. Adheres to the stone. Ripens middle of September.

Buel's Favourite.

An excellent plum, raised by Isaac Denniston, of Albany, N. Y.

Branches smooth, reddish. Fruit pretty large, ovate, broadest towards the stalk. Suture quite distinct for half the circumference. Stalk nearly three-quarters of an inch long, rather stout, slightly inserted. Skin pale green, thickly sprinkled with lighter dots, and speckled with a little red next the stalk. Flesh greenish-yellow, rather firm, juicy, and quite rich and high flavoured, adheres to the stone, which is long and pointed. Last of August.

Burgundy Prune.

Prune de Bourgoyne.

Fruit medium, egg-shaped, with a neck, suture indistinct. Skin reddish-black, with a blue bloom, covered with numerous small dots. Stalk long, set in a very small cavity. Flesh fine, juicy, sugary, very pleasant. Separates from the stone middle of September.

Burrettes.

Raised by Mr. Gregoire. Tree of medium vigour, very fertile. Fruit large, long, oval. Skin dull yellow. Flesh very

delicate, melting, abounding in juice, very sweet, with a delightful aroma. Ripe the end of September. (Al. Pom.)

Chapin's Early?

Received of Mr. E. Chapin, of York, Pa. Origin unknown. Tree healthy, but not vigorous.

Branches downy. Fruit small, roundish, globular, slightly protuberant on one side, suture indistinct. Skin pale red, covered with a light bloom. Stalk half an inch long, inserted slightly in a ring. Flesh yellow, rather coarse, sweet, juicy, and refreshing. Adheres slightly to the stone. Ripens the middle of August.

Cruger's Scarlet.

Cruger's. Cruger's Seedling.
Cruger's Scarlet Gage.

Raised by Henry Cruger, of New York. Tree of free growth, branches long, very productive.

Branches downy. Fruit rather larger than a Green Gage, roundish-oval, with an obscure suture. Skin, when fully exposed, a lively red, but usually a bright lilac, covered with a thin bluish bloom, and speckled with numerous golden dots; in the shade it is pale fawn-coloured on one side. Stalk half an inch long, set in a shallow depression. Flesh deep orange, not very juicy nor rich, but with a very agreeable, mild, sprightly flavour. It hangs well after ripening. Last of August.

Cherry. Thomp. Coxe.

Early Scarlet.
Myrobolan.
Virginian Cherry. } *of European gardens.*
De Virginie. }
D'Amerique Rouge. }
Prunus Myrobolana. *O. Duh. Lind.*
Prunus Cerasifera. *Pursh.*
Miser Plum, *of Hoffy.*

The Cherry Plum or Early Scarlet is a very distinct species. Tree grows rapidly, forming a bushy head, with slender branches and small leaves. A beautiful early fruit. Good for preserving or market.

Fruit is round, about an inch in diameter, of a lively red, with very little bloom, and a very slender, short stem, set in a narrow cavity. The flesh is greenish, melting, soft, very juicy, with a pleasant, lively, sub-acid flavour—neither rich nor high flavoured, and adheres closely to the stone. It ripens about the middle of July, before most other plums, and this, and its pretty

appearance at the dessert, are its chief merits. Branches smooth.

The common cherry plum, or MYROBOLAN, of Europe, is rather larger, and shaped like a heart. In all other respects the same.

GOLDEN CHERRY PLUM.

Similar to the above except in colour, which is a waxen yellow. Raised by Samuel Reeve, Salem, N. J.

CHESTON. Thomp. Lind.

Matchless. *Lang.*
Diaprée Violette. } *ac. to*
Violet Diaper. } *Thomp.*

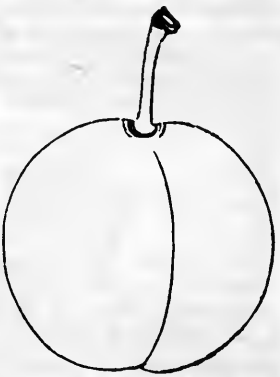
A pleasant, early plum, but superseded now by better ones. Branches downy. Fruit rather small, oval. Skin dark purple, with a blue bloom. Stalk quite short, set without depression. Flesh yellow, firm, sweet, and rather sprightly, separating from the stone. Last of July and first of August.

COE'S LATE RED. Thomp. Lind.

Saint Martin. } *of the*
Saint Martin Rouge. } *French.*
Prune de la St. Martin. *Nois.*

Tree vigorous, with long, rather slender branches, very productive. A good late variety.

Branches downy. Fruit of medium size, nearly round, with a well marked suture running along one side. Skin light purplish-red, with a thin blue bloom. Stalk pretty stout, three-fourths of an inch long, set nearly even with the surface. Flesh yellowish, rather firm and crisp, juicy, with a rich vinous flavour, separating almost entirely from the stone. October and November.



Coe's Late Red.

COLUMBIA.

Columbian Gage.

Raised by L. U. Lawrence, Hudson, N. Y. Tree vigorous, productive, but subject to rot. Fruit of the largest size, six or seven inches in circumference, nearly globular, one half rather

larger than the other. Skin brownish purple, dotted with numerous fawn-coloured specks, and covered with much blue bloom, through which appears a reddish brown tint on the shaded side. Stalk about an inch long, rather stout, inserted in a narrow, small cavity. Flesh orange, not very juicy, but when at full maturity, very rich, sugary and excellent; it separates freely from the stone, except a little on the edge. The stone is quite small and compressed. Last of August.

Cooper's Large. Coxe. Thomp.

Cooper's Large Red.
Cooper's Large American.
La Délicieuse? *Lind.*

Coxe, who first described this plum, says it was raised by Mr. Joseph Cooper, of New Jersey, from a stone of the Orleans. He considers it as a fine large plum, but exceedingly liable to rot upon the tree.

There is still much confusion in regard to this plum which we have not been able to unravel, but believe it to be distinct from Smith's Orleans.

Corse's Nota Bene. Ken.

Raised by Henry Corse, of Montreal, Canada. Tree very vigorous, very productive and hardy.

Branches smooth. Fruit of rather large size, round. Skin pale lilac or pale brown, often dull green on the shaded side, with much light blue bloom. Stalk half an inch long, set in a round hollow. Flesh greenish, rather firm, juicy, sweet and rich, and separates from the stone. First of September.

Damson. Thomp.

Common Damson. Purple Damson.
Black Damson. Early Damson, (*of many.*)

The common, oval, blue Damson, is almost too well known to need description, as every cottage garden in the country contains this tree, and thousands of bushels are annually sold in the market for preserves. The tree is enormously productive, but in the hands of careless cultivators is liable to be rendered worthless by the *knots*, caused by an insect easily extirpated, if the diseased branches are regularly burned every winter or spring.

Branches slender, a little thorny and downy. Fruit small, oval, about an inch long. Skin purple, covered with thick blue bloom; flesh melting and juicy, rather tart, separates partially from the stone. September.

As the Damson is frequently produced from seed, it varies somewhat in character.

The Shropshire or Prune Damson is an English purple variety, rather obovate in figure, but little superiour to our common sort. The Sweet Damson resembles the common Damson, and is but slightly acid.

The Winter Damson is a valuable market sort, from its extreme lateness. It is small, round, purple, covered with a very thick light-blue bloom; flesh greenish, acid, with a slight astringency, but makes good preserves. It bears enormous crops, and will hang on the tree till the middle of November, six weeks after the common Damson, uninjured by the early frosts.

Dana's Yellow Gage. Man.

A New-England variety, raised by the Reverend Mr. Dana, of Ipswich, Massachusetts. It is a very hardy and healthy tree, and bears abundantly.

Fruit of medium size, oval, pale yellow, with a very thin bloom, the skin clouded like that of the Imperial Gage. Flesh adheres to the stone, juicy, sweet, with a lively, peculiar flavour. Last of August and first of September.

Denniston's Albany Beauty.

A good variety. Branches slightly downy. Fruit rather below medium size, roundish-oval, with an obscure suture. Skin pale whitish-green, marked with numerous small purplish dots, and covered with a thin bloom. Stalk an inch or more long, slender, very slightly inserted. Flesh yellow, moderately juicy, rich, and sweet, separates from the stone, which is small and pointed. Ripe 24th of August.

Denniston's Red.

Raised by Isaac Denniston, Albany. Vigorous grower, productive.

Branches smooth, dark coloured. Fruit rather large, roundish-oval, narrowed towards the stalk. Suture running half round. Skin of a beautiful light red, sprinkled with many small, fawn-coloured dots, and dusted with a very light bloom.

Stalk very long and slender, slightly inserted. Flesh amber colour, juicy, rich, and sprightly, with an excellent flavour. It separates from the stone, which is small, oval, and compressed. Last of August.

De Montfort.

A seedling of Prevost.

Tree of moderate growth, very productive. Branches greyish. Fruit medium size, roundish-oval. Suture slight. Skin

dull purple, with russet dots and stripes. Stalk nearly an inch long, rather stout, without depression. Flesh greenish, juice abundant, sweet and rich. Adheres to the stone. Ripens last of August.

Domine Dull. Floy. Thomp.

German Prune. } *Man. and of some*
Dutch Prune. } *American gardens.*
Dutch Quetzen.

This good American prune was raised from a seed brought from Holland, by the Rev. Mr. Dull, a Dutch minister, who afterwards resided at Kingston, N. Y. The parent tree was the common Dutch prune, which this strongly resembles. The same gentleman's little parcel of plum stones from "*faderland*," it will be remembered, gave origin to Bleecker's Gage, one of the finest of our yellow varieties.

Branches long and smooth. Fruit of medium size, long oval, with little or no suture. Skin very dark purple, nearly black, dusted with some blue bloom. Stalk nearly an inch long, inserted with very little cavity. Flesh yellow, quite juicy at first, but if allowed to hang on the tree becomes dry, rich and sweet; it adheres closely to the stone. A prodigious bearer, and a really good fruit. September.

Downton Imperatrice. Thomp. Lind.

Raised by Mr. Knight. A strong, upright growing tree. Branches long, smooth. Fruit of medium size, oval, narrowing a little to the stalk. Skin pale yellow, quite thin. Flesh yellow, melting and sweet when fully ripe, with a little acidity before; adhering to the stone. Ripens last of September, and hangs some time on the tree.

Drap d'Or. Thomp. Lind. Lang.

Mirabelle Double. *Duh.* Mirabelle Grosse. Yellow Perdrigon.

The Drap d'Or, or Cloth of Gold Plum, is about the size and figure of the Green Gage, but of a fine golden yellow, and ripens a week earlier.

Branches slightly downy. Fruit below medium size, round, with an indistinct suture and a dimpled or pitted apex. Stalk slender, half an inch long. Skin rich bright yellow, with a few crimson specks, when fully exposed. Flesh yellow, sugary, and rich, but sometimes a little dry; separates freely from the stone. Early in August.

Drap d'Or of Esperin. Al. Pom.

Cloth of Gold.

Raised by Major Esperin. Tree of moderate growth, spreading, buds large, pointed, a promising variety.

Branches smooth. Fruit large, roundish-oval. Skin golden yellow, with light streaks of green beneath, covered with a thin bloom, and a few crimson dots on the sunny side, suture shallow. Stalk short and stout, in a very small cavity. Flesh yellowish, rather coarse, very juicy, sugary and rich; freestone. Ripens last of August.

Duane's Purple. P. Man. Ken.

Purple Magnum Bonum.

Raised by James Duane, of Duanesburgh, N. Y. Tree very vigorous, distinct from the Red Magnum Bonum of Europe.

Branches very downy. Fruit very large, oval or oblong, considerably swollen on one side of the suture. Skin reddish-purple in the sun, but a very pale red in the shade, sparingly dotted with yellow specks, and covered with lilac bloom. Stalk three-fourths of an inch long, slender, set in a narrow cavity. Flesh amber coloured, juicy, sprightly, moderately sweet, adheres partially to the stone. Ripens with the Washington, (or a little before,) about the 10th of August.

Dunmore.

Foreign origin. Fruit small, egg-shaped. Skin thick and green, becomes golden-yellow at maturity. Flesh yellow, fine, very juicy, sweet, very aromatic; separates from the stone. Ripens the first of October. (Al. Pom.)

Early Cross.

Originated with Mr. Cross, Salem, Mass. Tree moderately vigorous, productive. Fruit small to medium, roundish. Skin reddish-purple, covered with a thick bloom. Stalk half an inch long. Flesh greenish-yellow, juicy, sweet and good; adheres to the stone. Ripens the second week in August.

Early Royal, of Nikita.

Tree moderately vigorous. Branches smooth, gray. Fruit small, roundish. Skin reddish-purple, with a bloom. Stalk medium, curved. Flesh yellow, sweet, juicy, of pretty high flavour. Adheres partially to the stone. Ripens middle of August.

Early Yellow Prune.

Tree vigorous and very productive. Branches downy. Fruit rather large, oval. Skin yellow, with a very slight bloom, and dotted with red in the sun. Stalk of medium length, inserted in a small cavity. Flesh yellow, sweet, juicy, with somewhat of a melon flavour. Separates from the stone. Ripens middle of August.

Emerald Drop.

Origin, Newburgh, N. Y. Tree moderately vigorous, and very productive.

Branches long and smooth. Fruit of medium size, long-oval. Suture strongly marked, and the fruit larger on one of its sides. Skin pale yellowish-green, sometimes dull green only, in the shade. Stalk three-fourths of an inch long, inserted with scarcely any depression. Flesh greenish-yellow, very juicy, adheres somewhat to the stone, which is long and pointed. Last of August.

English Wheat.

Fruit medium, roundish-oval, suture moderate. Skin reddish-purple, with a blue bloom, covered with numerous white dots. Stalk half an inch long, rather strong, set in a rather deep cavity. Flesh yellow, a little coarse, juicy, sweet, with a rich flavour. It adheres to the stone. Ripens the last of August.

Fellenberg.

Prune Suisse. Italian Prune.

Branches grey, smooth. Fruit medium oval, suture moderate. Skin dark blue, with a bloom. Stalk an inch long, rather stout, inserted in a very small cavity. Flesh dark yellow, juicy, sweet, and good. Separates from the stone. Ripens first of October.

Frost Gage. Pom. Man.

Frost Plum.

A late plum, scarcely yielding to any other late variety in the excellence of its flavour. It appears to have originated in Fishkill, Dutchess county, N. Y., where it has, for many years past, been most extensively cultivated for market; but of late has been so subject to knots that it is not now much grown.

Branches smooth. Fruit rather below medium size, roundish-oval, with a distinct suture on one side. Skin deep purple, with a few brown specks, and a thin bloom. Stalk half to

three-fourths of an inch in length, inserted with little or no depression. Flesh greenish-yellow, juicy, sweet, rich and melting, adhering to the stone. First of October.

Fulton.

Origin uncertain. Found at Johnstown, Fulton Co., N. Y. Tree vigorous and productive. Fruit medium, oval, suture distinct. Skin a bright yellow. Stalk about three-quarters of an inch long, set in a moderately deep cavity. Flesh yellow, juicy, high flavoured, fine for the dessert. Ripens in October, and frequently hangs till November; valuable on account of its lateness. (N. Y. Hort. Rev.)

Galbraith.

Origin with Mr. Galbraith, near Boalsbury, Pa. A straggling grower, but a valuable early variety. Fruit large, oval. Skin purple. Stalk medium. Flesh tender, juicy, adherent to the stone, flavour luscious, quality "very good," if not "best." (Ad. Int. Rep.)

Genl. Hand.

Origin uncertain; supposed to have originated on the farm of Genl. Hand, near Lancaster, Pa. Tree very vigorous.

Branches smooth. Fruit very large, roundish, oval; suture obscure, running half round. Skin deep golden yellow, slightly marbled with greenish yellow. Stalk long, set in a shallow cavity, the whole of that end being flattened. Flesh coarse, pale yellow, moderately juicy, sweet and good, but not high flavour. Separates freely from the stone. Ripens the first week in September.

Goliath. Thomp. Lind.

Caledonian, (*of some.*) Saint Cloud.
Steers's Emperor. Wilmot's late Orleans.

A large and handsome plum. It is easily distinguished from the Nectarine plum, with which it has been confounded by its gray, very *downy* shoots.

Fruit large, roundish-oblong, enlarged on one side of the suture. Skin a fine deep red, approaching purple, a little paler in the shade, dusted with a thin blue bloom. Flesh yellow, adheres considerably to the stone, rather juicy, with a brisk, sprightly flavour. Last of August.

Gundaker Prune.

Groundacre.

Raised by Samuel E. Gundaker, of Lancaster, Pennsylvania.

The Gundaker Prune is of a yellowish-white colour, nearly as large as the Blue Prune, and of the same oval shape, very high-flavoured, and a good bearer.

Gundaker Plum.

Same origin as the Prune, of a purple colour on one side, and the other a light colour, heart-shaped, resembling a plum called Golden Drop, but larger in size, and a great bearer. (Gundaker in Hort.)

Guthrie's Topaz.

Raised by Mr. Guthrie, Scotland. Tree a moderate grower, with smooth grey branches, very productive. Fruit medium, oval, with a slight neck, one side somewhat swollen. Suture moderate. Skin golden-yellow, with a thin bloom. Stalk an inch long, slender, curved, inserted in a small cavity. Flesh yellow, juicy, sweet, not very rich, but pleasant. Adheres to the stone. Ripens the middle of September, and will hang for some time.

Guthrie's Apricot.

Raised by Mr. Guthrie, Scotland. Tree very vigorous, hardy, productive. Branches smooth. Fruit rather large, roundish-oval. Suture very slight. Skin yellow, sprinkled with a few crimson dots, and covered with a thin bloom. Stalk rather long, set in a small depression. Flesh yellow, coarse, juicy, sweet, but not high-flavoured. Pit adherent. Ripens the last of August.

Guthrie's Late Green.

Raised by Mr. Guthrie, Scotland, a very rapid grower. Branches smooth. Fruit medium, globular, swollen on one side. Skin yellow, with splashes of green, and covered with a thin bloom. Stalk three-fourths of an inch long, inserted in a small cavity. Flesh light-yellow, firm, rather dry, but sweet and rich. Adheres slightly to the stone. Ripens middle of September.

Hartwiss' Yellow Prune.

A new German variety. Tree vigorous. Fruit medium, oval, with a neck narrowed at the crown. Suture moderate. Skin waxen-yellow, with occasional red dots. Stalk long. Flesh light-yellow, fine, rich, subacid flavour, moderately juicy. Ripens the last of September.

Henry Clay.

Raised by Elisha Dorr, Albany, N. Y. Tree vigorous and productive. Its great beauty and lateness will make it desirable.

Branches smooth. Fruit medium, somewhat oval, with a slight suture. Skin yellow, with a light bloom, and the cheek beautifully marbled and shaded with red. Stalk long, slender, inserted almost without cavity. Flesh yellow, juicy, and sweet. Stone small, and very slightly adherent. Ripens last of August.

Highlander.

Tree vigorous and very productive.

Branches gray, smooth. Fruit large, irregularly ovate, somewhat swelled on one side. Suture moderate, half round. Skin deep-blue, inclining to reddish-brown, covered with a thin bloom, and thickly sprinkled with brown dots. Stalk very short, inserted in a slight cavity. Flesh yellow, juicy, sugary, rich, vinous, refreshing, and excellent. Adheres slightly to the stone. Ripens last of September.

Howell's Early.

Origin unknown, brought from Virginia. Tree of rather slow growth.

Wood slender, gray, and downy. Leaves small, oval, downy. Fruit rather below medium size, oval, without any suture, a little angular. Stalk slender, three-fourths of an inch long, set even with the surface. Skin light-brown, often greenish-yellow on the shaded side, covered with a thin blue bloom. Flesh amber coloured, melting, juicy, with a sweet and perfumed flavour, separates from the stone, which is quite small and oval. First of August.

How's Amber.

Origin Portsmouth, N. H. Tree vigorous, productive.

Fruit medium, roundish, slight suture. Skin amber-coloured in the shade, mottled with rose, thinly covered with pale violet bloom. Stalk of medium length, inserted without cavity.

Flesh coarse, yellow, melting, juicy. Adhering to the stone. Ripens first of September. (Hov. Mag.)

Hulings' Superb. Pom. Man.

Keyser's Plum.

Raised by Mr. Keyser of Pennsylvania, and brought into notice by Dr. W. E. Hulings of that state.

Tree very vigorous, upright, large foliage, blunt shoots, large-shouldered buds, moderate bearer.

Branches downy. Fruit very large, roundish, oval, with a distinct though shallow suture. Stalk strong and stout, set in a round, small cavity. Skin rather dull greenish-yellow, thinly covered with pale bloom. Flesh greenish-yellow, rather coarse, but with a rich, brisk, sprightly flavour. It adheres to the stone. Ripens middle of August.

Ickworth Imperatrice. Thomp.

Knight's No. 6.

Raised by Mr. Knight, of Downton Castle, and is a hybrid between Blue Imperatrice and Coe's Golden Drop. It hangs a long while on the tree, and if gathered and wrapped in soft paper, will keep many weeks.

Branches smooth. Fruit rather above medium size, obovate. Skin purple, peculiarly traced or embroidered with streaks of golden fawn colour. Stalk moderately long and thick. Flesh greenish-yellow, sweet, juicy and rich, mostly adhering to the stone, which is rather small. Ripens early in October, and may be kept till Christmas, gradually becoming dryer and more sugary.

Isabella. Thomp.

This is an attractive looking English plum, of a fine red colour, worthy a place in a large collection.

Branches quite downy and gray. Fruit medium size, oval, rather narrower towards the stalk. Skin dark dull red in the sun, paler in the shade, and thickly sprinkled with darker coloured dots. Stalk three-fourths of an inch long, a little hairy, set in a moderate hollow. Flesh yellow, rich, juicy, with a smart flavour, and adheres to the pointed stone. Last of August.

Ives' Seedling.

Raised by J. M. Ives, Salem, Mass. Tree of moderate growth, buds very prominent.

Branches smooth. Fruit large, oval, tapering a little to the apex, suture distinct. Skin yellow, mottled and dotted with red, and covered with a thin bloom. Stalk short, set in a very small cavity. Flesh rich amber colour, melting and separating freely from the stone, juicy and high flavoured. Ripens first of September. (Hov. Mag.)

Jaune Hative. Thomp. Lind. O. Duh.

Early Yellow.
Catalonian.
White Primordian.
Jaune de Catalogne.
Prune de St. Barnabe.
D'Avoine.
Amber Primordian.

The earliest of plums, which is its chief recommendation. It

is a very old variety from Catalonia, and the south of France, and has been in cultivation more than two hundred years. It is a pretty little fruit, and is worthy of a place in the garden of the amateur. The tree has long, slender, downy branches.

Fruit small, oval, or obovate, with a yellow suture on one side. Stalk slender, half an inch long. Skin pale yellow, thinly coated with bloom. Flesh yellow, tolerably juicy, and melting, of sweet and pleasant flavour; separates from the stone. Ripens from the 10th to the middle of July.

Judson.

Raised by Mr. Judson, of Lansingburgh, N. Y. Tree thrifty and productive. Fruit below medium, roundish. Skin a clear violet red, slightly mottled with a deeper shade, with a thin bloom. Stalk rather long. Flesh pale yellow, separating from the stone, juicy and vinous. Ripe the end of August. (Hov. Mag.)

Kirke's. Thomp. Lind.

Kirke's plum is a variety which came to us from England, where it was first brought into notice by Mr. Kirke, the nurseryman, at Brompton.

Branches smooth. Fruit of medium size, round, with very little suture. Skin dark purple, with a few golden dots, and coated with an unusually thick blue bloom, which adheres pretty closely. Stalk three-fourths of an inch long, inserted in a very slight depression. Flesh greenish-yellow, firm, and very rich in flavour. It separates freely from the stone, which is flat and broad. Ripens the last of August and first of September.

Lady Plum.

Raised by Isaac Denniston, Albany, N. Y. Tree of slender growth, productive. It is quite a pretty fruit, esteemed highly for preserving, this being its chief quality. It is a rampant grower, an abundant bearer. Fruit quite small, oval. Stalk short and stout; colour light yellow, spotted with red. Stone free and small; flavour acid. Season first of September. (E. Dorr in Cult.)

Langdon's Seedling.

Raised by Reuben Langdon, of Hartford, Conn. Tree vigorous and productive.

Branches smooth. Fruit rather large, roundish, oval, with a moderate suture. Skin reddish purple, covered with a thick bloom. Stalk three-fourths of an inch long, inserted in a rather deep cavity. Flesh greenish-yellow, juicy, sprightly, sub-acid, and adheres mostly to the stone. Ripens the last of August.

Large Green Drying. Thomp.

Knight's Large Drying. *Ken.*

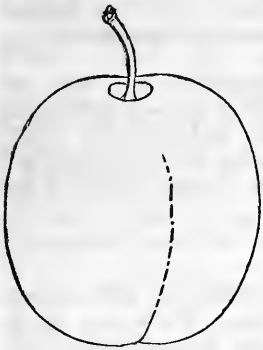
A new late variety, raised, we believe, by Mr. Knight, and introduced here from the garden of the Horticultural Society, of London. The tree is vigorous, and the branches are smooth; the fruit large, round, greenish-yellow; the flesh yellowish, moderately juicy, rich and excellent; adheres to the stone. Ripens about the middle of September, and is a moderate bearer.

Lombard. Ken.

Bleecker's Scarlet. Beekman's Scarlet. Montgomery Prune?

Tree very vigorous, hardy, has strikingly crimpled leaves, bright purple glossy shoots, very productive, popular, but only of second growth.

It was called the Lombard plum by the Massachusetts Horticultural Society, in compliment to Mr. Lombard, of Springfield, Mass., who first brought it into notice in that State; and it is said to have been received by him from Judge Platt, of Whitesborough, N. Y., who raised it from seed. But it was previously well known here by the name of *Bleecker's Scarlet.* Never having been described under that name, however, we adopt the present title.



Lombard.

Branches smooth. Fruit of me dium size, roundish-oval, slightly flattened at either end; suture obscure. Stalk quite slender, scarcely three-fourths of an inch long, set in a broad, abruptly narrowing cavity. Skin delicate violet red, paler in the shade, dotted with red, and dusted thinly with bloom. Flesh deep yellow, juicy, and pleasant, but not rich; adhering to the stone. Middle and last of August.

Lucombe's Nonesuch. Thomp. Lind. P. Mag.

An English plum raised by Lucombe, of the Exeter Nursery. Branches smooth. Fruit above medium size, roundish, shaped and coloured much like the Green Gage, but much more distinctly streaked with yellow and orange, and covered with a whitish bloom. Suture broad. Stalk straight, three-fourths of an inch long, set in a wide hollow. Flesh pretty firm, greenish,

rich, sweet mingled with acid; adheres to the stone. Bears well, and ripens about the middle of August.

Mamelonnée.

Mamelon Sageret.

A seedling of Sageret, of Paris. Tree moderately vigorous. Fruit of remarkable shape, having a neck or (mamelone) at the base of the stock; it is of excellent quality, hardy and prolific. Fruit of medium size, oval, tapering toward the apex, and a well marked suture on one side. Stalk small, inserted without depression. Skin colour of Green Gage, marbled in the sun with red. Flesh greenish-yellow, sweet, juicy and rich; parts freely from the stone, which is very small. Ripens middle of August. (Barry in Hort.)

Marten's Seedling.

An accidental seedling in the garden of Mr. Marten, Schenectady, N. Y. A very vigorous, upright grower, productive.

Branches smooth, greyish. Fruit large, oblong, irregular suture, rather deep from stalk to apex, which is a little sunk. Skin yellow, somewhat streaked with green, and dotted with red on the sunny side. Stalk nearly an inch long, set in a small cavity. Flesh yellow, a little coarse, juicy, with a brisk, sprightly flavour. Separates from the stone. Ripens the first of September.

Meigs.

Fruit large, roundish, oval, suture indistinct. Skin dull reddish-purple, with numerous grey dots. Stalk long, curved, slender, set in a small cavity. Flesh greenish-yellow, juicy, rich, sugary and excellent. Adheres to the stone. Ripens last of September.

Mirabelle Tardive.

Fruit small, roundish-oval, greenish-yellow, freestone, a most interesting and nice little plum, sweet, juicy and agreeable, bears most abundantly, and will hang on the tree till the end of October. (Riv. Cut.)

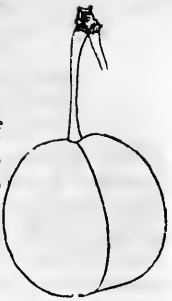
Mirabelle. Thomp. Lind. O. Duh.

Mirabelle Petite. Mirabelle Jaune.

A very pretty little fruit, exceedingly ornamental on the tree, the branches of which are thickly sprinkled with its abundant

crops. The tree is small in all its parts, and although the fruit has a tolerable flavour, yet from its size and high perfume, it is chiefly valued for preserving.

Branches downy. Fruit quite small, obovate, with a well marked suture. Stalk half an inch long, slightly inserted. Skin of a beautiful yellow, a little spotted with red at maturity, and covered with a white bloom. Flesh orange, sweet, and sprightly, becoming dry when over-ripe, and separates from the stone. Ripens with the Green Gage.



Mirabelle.

Monroe.

Monroe Egg.

Raised by Miss Dunham, Penfield, Monroe Co., N. Y. Tree very vigorous and productive.

Branches smooth. Fruit medium, or above, oval. Skin greenish-yellow, with rarely a blush. Stalk rather long, with very little depression. Flesh greenish-yellow, not very tender, but with a rich sugary flavour. First of September. (H. E. Hooker, MS.)

Morocco. Thomp. Lind.

Early Morocco. Black Morocco.
Early Black Morocco. Early Damask. *Mill.*

A good early plum, of rather slow growth, and a moderate bearer. Inferior to Rivers's Early Favourite.

Branches downy. Fruit of medium size, roundish, with a shallow suture on one side, a little flattened at both ends. Skin dark purple, covered with a pale thin bloom. Stalk half an inch long, rather stout. Flesh greenish-yellow, adhering slightly to the stone, juicy, with a smart, rich flavour, becoming quite sweet at maturity. First of August.

Mulberry.

Raised by Isaac Denniston, of Albany. The leaves are remarkably luxuriant, broad, and crumpled. Fruit large, oval, somewhat narrowest towards the stalk. Skin pale, whitish-yellow, sprinkled with white dots, and dusted with a pale bloom. Stalk an inch long, rather slender, very slightly inserted. Flesh greenish-yellow, juicy, sweet, and good; adheres slightly to the stone. The latter is long and pointed. First of September.

Nectarine. Thomp. Lind.

Caledonian.
Howell's Large.
Jenkins' Imperial.
Peach Plum. } *incorrectly*
Prune Péche. } *of some.*
Louis Philippe.

Tree vigorous, upright, stout, blunt, purplish shoots, nearly smooth. A fine looking fruit, of foreign origin, but only of second quality.

Fruit of the largest size, regularly formed, roundish. Stalk about half an inch long, rather stout, and set in a wide shallow depression. Skin purple, dusted with a blue bloom. Flesh dull greenish-yellow, becoming tinged with red at maturity, a little coarse grained, with a rich, brisk flavour, and adhering partially to the stone. A good and regular bearer. Ripens about the 15th of August.

Orange.

Orange Gage, (*of some.*)*

Origin, Rhinebeck, Dutchess Co., N. Y. Tree a vigorous grower, productive.

Branches stout and smooth. Fruit very large, oval, flattened at both ends. Skin bronze-yellow, marked with roughish white dots, and clouded with purplish red near the stalk. The latter is three-fourths of an inch long, rather rough, inserted in a narrow round cavity. Flesh deep yellow, a little coarse grained, but with acid flavour when fully ripe. It adheres a little to the stone, which is much compressed and furrowed. Ripens the last of August.

Orleans. Lind. Thomp.

Monsieur.
Monsieur Ordinaire. } *of the French.*
Old Orleans.
Red Damask.

A popular English market plum, being hardy and uniformly productive.

Branches grey, and very downy. Fruit middle sized, round, a little enlarged on one side of the distinct suture. Skin dark red, becoming purple in the sun. Flesh yellowish, sweet, mixed with acid, and separates freely from the stone. Ripens a little after the middle of August.

* There is a great propensity for calling every plum of merit a Gage, in this part of the country. As this has no resemblance whatever to the original type of this class, we drop that part of its name.

Orleans Early. Thomp. Lind.

New Early Orleans.
New Orleans.
Grimwood's Early Orleans.
Hampton Court.
Monsieur Hâtif
Monsieur Hâtif de Montmorency. } *of the French.*

The Early Orleans is very near like the foregoing in all respects, except that it ripens ten days earlier.

Branches downy. Fruit of the size and colour of the common Orleans, a little more oval, and with a more shallow suture. Skin a little marbled. Flesh yellowish-green, of brisk flavour, rather richer than the old Orleans, and separates from the stone. A good bearer.

Wilmot's New Early Orleans, (*Wilmot's Large Orleans*, &c.,) so strongly resembles the foregoing in appearance, time of ripening, etc., as to be scarcely worthy of a separate description.

Penobscot.

Raised by James McLaughlin, Bangor, Maine. Tree vigorous, hardy, productive.

Branches smooth. Fruit large, oval, suture distinct. Stalk three-fourths of an inch long, set in a small cavity. Skin yellow, tinged with green and a faint red cheek. Flesh yellow, sweet and pleasant, adheres to the stone. Ripens the first of September. (Hort.)

Pond's Seedling.

Plum de l'Inde.

English origin. Tree vigorous.

Branches smooth, greyish. Fruit very large, nearly egg-shaped, a little tapering towards the stem. Skin thick, reddish-violet, with numerous brown dots, and covered with a beautiful bloom. Flesh yellow, a little coarse, abounding in juice, very sugary, not rich. Ripens middle of September. (Al. Pom.)

Precocee de Bergthold.

Fruit small, roundish-oval, yellow, juicy and sweet. The earliest yellow plum, as early and better than Jaune Hative. (Riv. Cut.)

Précoce de Tours. O. Duh. Thomp. Lind.

Early Violet.
Violette Hative.
Early Tours.
} *Lang. Lind.*
Perdrigon Violet.
Blue Perdrigon.
Violet de Tours.
Noire Hative.
} (*incorrectly of some.*)

Of foreign origin, tree vigorous, with long, slender branches, moderately productive.

Branches downy. Fruit rather more than an inch in diameter, oval, with a shallow suture. Skin deep purple, covered with a thick azure bloom. Stalk half an inch long, set in a narrow cavity. Flesh at first greenish, but becoming dull yellow at maturity; a little fibrous, but juicy, sweet, melting, and slightly perfumed; it adheres considerably to the stone. First of August.

Prince Englebert.

From Belgium, a free grower, productive. Fruit very large and long, very deep purple, with a remarkably dense bloom, rich and excellent. Ripe September. (Riv. Cut.)

Prince's Orange Egg.

Raised by William Prince, tree very vigorous, and productive.

Fruit rather large, oval. Skin yellow, covered with a thin bloom. Stalk three-fourths of an inch long, rather stout, set in a small cavity. Flesh golden yellow, coarse, juicy, sprightly, subacid, not rich. Adheres to the stone. Ripens the middle of September.

Prince of Wales. Chapman's.

English origin. Tree very vigorous, very productive.

Branches smooth. Fruit large, globular, inclining to oblong, with a moderate suture on one side. Skin reddish-purple, with brownish-yellow dots, and a thick bloom. Stalk short and stout, set in a moderate cavity. Flesh a little coarse, greenish-yellow, juicy, sweet, and sprightly, not rich, partially adhering to the stone. Ripens first of September.

Prune, Manning's Long Blue.

Large Long Blue. *Man.* Manning's Long Blue.

Origin unknown. Tree vigorous, with long dark-coloured shoots, very productive.

Branches smooth. Fruit quite large, long-oval, a little one-sided, with an obscure suture. Stalk very long, and slender, set in a very trifling depression. Skin dark purple, with a thick blue bloom. Flesh greenish-yellow, firm, rather juicy, with a sweet, sprightly, pleasant flavour. It separates pretty readily from the stone, which is long and pointed. First to last of September. Ripens gradually, and bears carriage well.

Prune de Louvain.

Plum of Louvain.

Tree vigorous, fertile. Origin, nursery of Van Mons.

Fruit large, egg-shaped, with a neck, deep-purple, shaded with violet, suture deep, half-round. Flesh rather coarse, melting, pleasant. Freestone. Ripens end of August. (Al. Pom.)

Quackenboss.

Introduced by Mr. Quackenboss, of Greenbush, N. Y. A very rapid upright grower, and productive.

Fruit large, oblong-oval. Skin deep purple, covered with a whitish bloom. Suture scarcely apparent. Stalk short, crooked, thin, and set in a slight depressed cavity. Flesh greenish-yellow, sprightly, juicy, a little coarse-grained, sweet and excellent. Adheres slightly to the stone. A valuable late market plum, October. (N. Y. Hort. Rev.)

Quetsche de Dorelle Nouvelle Grand.

Fruit medium, oval. Suture small. Skin reddish-purple, with a thin bloom, and thickly covered with grey dots. Flesh greenish, sweet, and pleasant. Adheres to the stone. Ripens first of September.

Quetsche, or German Prune. Thomp.

Common Quetsche.	Zwetsche.	*ac. to Thomp.*
True Large German Prune.	Quetsche Grosse.	
Turkish Quetsche.	Prune d'Allemagne.	
Leipzic.	Quetsche d'Allemagne Grosse.	
Sweet Prune.	Damas Gros.	
Damask.	Covetche.	

Imperatrice Violette.
Imperatrice Violette Grosse. } *incorrectly, of some.*
Damas Violet Gros.

So many plums are cultivated under the name of German Prune, that it is difficult to fix this fickle title, a circumstance owing to the fact that the prune frequently comes the same, or nearly the same, from seed, and in prune-growing districts this is a popular way of increasing them, while it, of course, gives rise to many shades of character. It is a valuable class of plums, of fair quality for the table, but most esteemed for drying and preserving—abundant bearers, and hanging long on the tree. The common German Prune is described as follows:

Branches smooth. Fruit long-oval, near two inches long, peculiarly swollen on one side, and drawn out towards the stalk. Suture distinctly marked. Skin purple, with a thick blue bloom. Stalk three-fourths of an inch long, slender, slightly inserted. Flesh firm, green, sweet and pleasant; separates from the stone, which is flat, very long, and a little curved. Ripens about the 10th of September.

This prune is, perhaps, the most universal and most valuable fruit tree in Germany, Hungary, Saxony, and all central Europe.

Preserved, it is used in winter as a substitute for butter, by the labouring peasantry; and dried, it is a source of large profit in commerce. In this country, it is yet but little known, but from the great hardiness and productiveness of the tree, it may be worth trial on a large scale.

The Austrian Quetsche, *Thomp.* (*Quetsche de Brême, Bremen Prune,*) is a sub-variety, much like the foregoing, purple, a freestone, of rather better flavour, and ripening somewhat later.

St. James' Quetsche, is another variety, with smooth branches, and oblong fruit of medium size. Flesh purple, adheres to the stone, of very good flavour. It yields good crops. September.

Queen Mother. Thomp. Ray. Lind.

Red Queen Mother. Pigeon's Heart.
Damas Violet.

A neat little reddish plum, long known in European gardens. Branches smooth, rather feeble in growth. Fruit rather small, round, about an inch in diameter. Skin dark, purplish-red in the sun, pale reddish amber in the shade, with many reddish dots. Stalk half an inch long. Flesh yellow, sweet and rich, separating freely from the stone, which is quite small. September.

Red Magnum Bonum. Lind. Thomp. Mill.

Purple Egg.
Red Imperial.
Imperial.
Purple Magnum Bonum.
Florence.
Imperial Violet.
Impériale Violette.
Impériale Rouge.
Dame Aubert Violette.
Impériale.
Prune d'œuf.
} *of the French.*

A foreign variety of moderate growth, slender smooth shoots, distinct from the American variety, which is a vigorous grower, with downy shoots.

Fruit large, oval, with a strong suture, on one side of which the fruit is more swollen. Skin rather pale in the shade, but deep red in the sun, sprinkled with many gray dots, and dusted with but little pale bloom. Stalk an inch or more long, slender, set in a narrow cavity. Flesh greenish, rather firm and coarse, with a sub-acid flavour; separating from the stone, which is oval and pointed. First of September.

Reine Claude Rouge of September.

Riena Nova.

Tree vigorous. Fruit very large, roundish-oval. Skin smooth, reddish, shaded with purple on the sunny side, finely pointed with russet. Stalk slender, set in a slight cavity. Flesh firm, juicy, sugary, slightly acid, somewhat aromatic, very

agreeable. Ripe middle of September, and continues a month. (Al. Pom.)

Reine Claude Diaphane.

Raised by M. Laffay, of Paris. Tree of medium vigour; branches gray.

Fruit medium, roundish, flattened. Skin smooth, transparent green, shaded with red. Flesh juicy, very sweet and aromatic. Ripens the middle of September. (Al. Pom.)

Reizenstein's Yellow Prune.

An Italian fruit. Tree very vigorous and productive. Fruit medium, oval, slightly necked, suture slight. Skin yellow, occasionally a sunny cheek. Flesh yellow, juicy, aromatic and pleasant. Adheres to the stone. Ripens the last of September.

Reine Claude d'October.

Tree very vigorous, young wood smooth, stout, and short-jointed.

Fruit small, roundish, suture moderate, apex dimpled. Skin greenish-yellow. Stalk stout, rather long. Flesh green, juicy, sugary and rich. Separates from the stone. Ripens the first of October.

Rivers's Early Favourite.

Rivers, No. 1.

Raised by Thomas Rivers, England. An excellent early fruit. Tree moderately vigorous.

Branches rather slender, slightly downy. Fruit small to medium, roundish-oval, with a shallow suture. Skin almost black, sprinkled with russet dots, and covered with a blue bloom. Flesh greenish-yellow, juicy, sweet and excellent, and although not quite as early as Jaune Hative, it is a richer fruit. Separates from the stone. Ripens the first of August.

Rivers's Early Prolific.

Rivers Early, No. 2.

Raised by Thos. Rivers, England. A prolific early plum. Tree moderately vigorous, with smooth greyish branches.

Fruit medium, roundish-oval. Skin reddish-purple, covered with a fine blue bloom. Stalk about half an inch long, set in a very small cavity. Flesh yellowish, juicy, sweet and pleasant. Separates from the stone. Ripens the first of August.

Royale de Tours. O. Duh. Poit. Thomp.

Royal Tours.

A French variety received from several sources, but they do

not agree, neither do the authorities; some say a freestone, and others a cling; we retain the old description.

Branches always quite downy. Fruit large, roundish, but marked with a large and deep suture extending quite half round, and enlarged on one side. At the apex is a small white depressed point. Skin lively red in the shade, deep violet in the sun, with many minute golden dots, and coated with a thick blue bloom. Stalk half to three-fourths of an inch long, stout, set in a narrow cavity. Flesh greenish, rather firm, with a rich, high flavoured, abundant juice. It adheres closely to the stone, which is large, oval, and flattened.

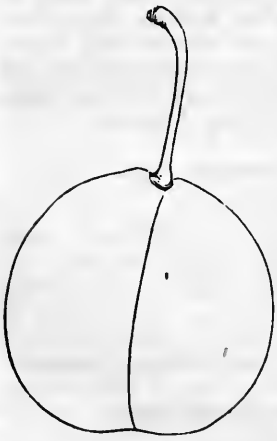
Royale Hâtive. Thomp. Nois.

Early Royal. Mirian.

An early plum of French origin. Tree vigorous, with stout short branches.

Branches very downy. Fruit of medium size, roundish, a little wider towards the stalk. Skin light purple, dotted, (and faintly streaked,) with brownish-yellow, and covered with a blue bloom. Stalk half an inch long, stout, inserted with little or no depression. Flesh yellow amber, with rich, high flavour, and parts from the stone, (adhering slightly, till ripe.) Stone small, flattened, ovate. Begins to ripen about the 20th of July.

Saint Catherine. Thomp. Lind. O. Duh.



St. Catherine.

Among the fine old varieties of late plums, the St. Catherine is one of the most celebrated. In France it is raised in large quantities, in some districts making the most delicate kind of prunes. It is also much esteemed for preserving, and is of excellent quality for the dessert.

Branches smooth, upright, rather slender. Fruit of medium size, obovate, narrowing considerably towards the stalk, and having a strongly marked suture on one side. Stalk three-fourths of an inch or more long, very slender, inserted in a slight cavity. Skin very pale yellow, overspread with thin white bloom, and occasionally becoming a little reddish on the sunny side. Flesh yellow, juicy, rather

firm, and adheres to the stone; in flavour it is sprightly, rich, and perfumed. Ripens the middle and last of September.

Saint Martin's Quetsche. Thomp.

A very late variety of Prune from Germany. Hardy and a good bearer.

Branches smooth. Fruit of medium size, ovate, or considerably broadest towards the stalk. Skin pale yellow, covered with a white bloom. Flesh yellowish, with a rich and excellent flavour, and separates readily from the stone. The fruit hangs a long time on the tree, but we fear that to the northward of this it may not come to full maturity every season. Ripens the first of October, and will hang a month.

Schenectady Catherine.

Origin, Schenectady, N. Y. Tree vigorous and productive. Fruit medium, roundish, suture, shallow. Skin deep-purple, violet in the shade; covered with a thin bloom. Stalk slender, set in a narrow cavity. Flesh yellowish, melting, separating freely from the stone, juice very abundant, sweet and rich. Ripe beginning of September.—(Hov. Mag.)

Sea or Early Purple.

Origin unknown. Fruit small, roundish. Skin brownish purple with a scanty light-coloured bloom. Flesh greenish-yellow, sweet, juicy, and parts freely from the stone, highly perfumed. Ripens about the time of Prince's Yellow Gage.—(White's Gard.)

Semiana. *Ken.*

Blue Imperatrice, *of some.* Semiana, *of Boston.*

This is quite distinct from the Semiana of Europe. It is probably a native fruit. Tree moderately vigorous, with slender shoots nearly smooth, very productive, late, keeps well—a good market fruit.

Fruit medium, oval. Skin deep purple, covered with blue bloom. Stalk short, cavity very small. Flesh greenish, juicy, subacid, not rich—adheres to the stone. Ripens last of September and 1st of October.

Sharp's Emperor. Thomp.

Denyer's Victoria? Queen Victoria?

A beautiful plum from England. Tree vigorous and productive. Branches strong, downy, and foliage large. Fruit quite large, roundish-oval. Skin, when exposed, of a fine bright, lively red, paler in the shade, with a delicate bloom. Flesh deep yellow, separates from the stone, of a pleasant, moderately rich flavour. Middle and last of September.

Denyer's Victoria resembles this, but we require another trial before pronouncing them identical.

Suisse. Thomp. Poit.

Simiana. Prune d'Altesse.
Monsieur Tardif. Prune Suisse.
Swiss Plum.

A foreign variety of free growth, with long, slender, smooth branches, distinct from Simiana of Boston.

Fruit rather small, roundish-oval. Skin violet-red, covered with a thick bloom. Flesh greenish-yellow, firm, rather dry but sweet, and separates from the stone. Ripe last of September.

Thomas.

A handsome native fruit, introduced by William Thomas of Boston ; a free grower, and bears abundantly.

Branches slightly downy. Fruit large, roundish-oval, a little irregular, and rather compressed in the direction of the suture. Stalk hairy, half an inch or more, long, stout, set in a small narrow cavity. Skin salmon colour, with numerous dots, and a soft red cheek. Flesh pale yellow, a little coarse grained, but with a mild pleasant flavour, separating freely from the stone. The stone is peculiarly light coloured. Ripe the last of August.

Trouvée de Voueche.

Found in the woods by Gregoire, and by him introduced. Tree moderately vigorous and very fertile.

Fruit medium or small, is regularly oval. Skin thick, reddish violet with a shady side, and a violet bloom on the sunny side. Flesh juicy, sweet, and very good. Ripens the end of August.—(Al. Pom.)

Virgin. Thomp.

A foreign variety of free growth. Branches smooth, rather slender.

Fruit medium, roundish. Skin reddish-purple. Flesh greenish, very juicy, sweet, and excellent. Adheres slightly to the stone. Ripens the first of September.

Wax.

Raised by Elisha Dorr, Albany, N. Y. Tree moderately vigorous and productive. Fruit large, slightly oval. Stalk very long. Colour the richest yellow, mostly covered with carmine and a lilac bloom. Flesh greenish-yellow, juicy, saccharine, with a very sprightly flavour. Separates from the stone. Ripe October. (E. Dorr in Cult.)

White Imperatrice. Thomp. Lind. P. Mag.

White Empress. Imperatrice Blanche. *O. Duh.*

In the habit of the tree, appearance and flavour of the fruit, and season of maturity, it strongly resembles the St. Catherine, but is a freestone. It is not equal to the latter in flavour.

Branches smooth. Fruit of medium size, obovate, a little flattened at the ends, suture rather obscure. Skin bright yellow, covered partially with a thin white bloom, and spotted with a little red. Stalk a little more than half an inch long, set in a narrow cavity. Flesh yellow, very juicy, crisp, sweet, and quite transparent in texture; separates freely from the stone, which is small and oblong. Ripe early in September.

White Magnum Bonum. Thomp. Lind.

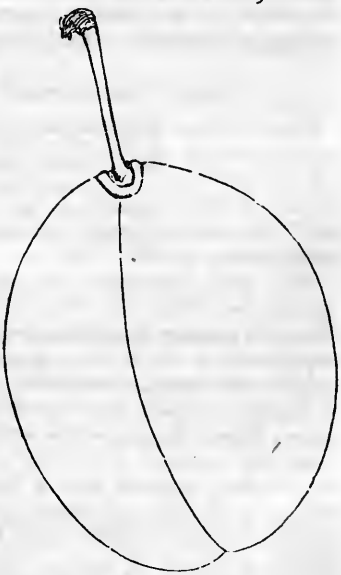
Egg Plum.
Yellow Egg.
White Egg.
Magnum Bonum.
} *of American gardens.*

Yellow Magnum Bonum.
White Mogul.
Wentworth.
White Imperial.*
White Holland.
} *of many English gardens.*

Dame Ambert.
Dame Ambert blanche.
Dame Ambert jaune.
Impériale blanche.
Grosse Luisante.
} *of the French.*

The White Magnum Bonum, or *Egg Plum*, as it is almost universally known here, is a very popular fruit, chiefly on account of its large and splendid appearance, and a slight acidity, which renders it admirably fitted for making showy sweetmeats or preserves. When it is raised in a fine warm situation, and is fully matured, it is pretty well flavoured, but ordinarily, it is considered coarse, and as belonging to the kitchen, and not to the dessert.

Branches smooth, long. Fruit of the largest size, measuring six inches in its longest circumference, oval, narrowing a good deal to both ends. Suture well marked.



White Magnum Bonum.

* There is really no practical difference between the White and the Yellow Magnum Bonum. The fruit is precisely similar in appearance and quality, though the growth of the two trees may not fully agree.

Stalk about an inch long, stout, inserted without cavity, in a folded border. Skin yellow, with numerous white dots, covered with thin white bloom—when fully ripe, of a deep gold colour. Flesh yellow, adhering closely to the stone, rather acid until very ripe, when it becomes sweet, though of only second rate flavour. Stem long, and pointed at both ends. A pretty good bearer, though apt, in light soils, to drop from the tree before matured. Middle of August.

Wilkinson.

Tree vigorous. Branches smooth, rather slender. Fruit medium, oval, slightly necked. Skin reddish-purple, covered with a thick bloom. Stalk medium, set in a small cavity. Flesh dark yellow, rather firm, sweet, not rich or high flavoured. Adheres partially to the stone. Ripens the last of September.

Woolston's Black Gage.

English. Fruit round, below medium size, black, very juicy, rich and sugary; a free grower and great bearer. This and Angeline Burdett are much alike in their fruit, but differ in the habit of the trees. Both have thick skins, which induces them to shrivel on the trees and become luscious sweetmeats. Beginning of September. (Riv. Cat.)

Yellow Gage, [of the English.] Thomp.

Little Queen Claude. *Mill. Lind.*
Petite Reine Claude. *O. Duh.*
Reine Claude Blanche.
——— petite espèce.
Small Green Gage. } *of some*
Gonne's Green Gage. } *English*
White Gage. } *gardens.*

This plum, formerly known, we believe, as the Little Queen Claude, but which has now received the *sobriquet* of Yellow Gage, we suppose for good reasons, from the head of the fruit department, in the London Horticultural Society's garden, is an old French variety, described by Duhamel.

Branches smooth and rather long. Fruit below medium size, round, with a distinct suture on one side. Stalk half an inch long, rather slender, inserted in a slight hollow. Skin pale yellowish-green, speckled with a few reddish dots, and overspread with a good deal of bloom. Flesh pale yellow, sweet, and pleasant, separates freely from the stone. Ripens about the middle of August.

CLASS III.

Contains those superseded by better sorts, some of which, however, are adapted to certain soils and localities.

Abricotée Rouge. Thomp. O. Duh. Nois.

A French variety. Branches smooth. Fruit of medium size, oval. Skin of a fine clear red in the shade, violet in the sun. Flesh orange colour, sweet, but rather dry, and without much flavour; separates freely from the stone. Ripens the last of August.

American Wheat.

Branches slender, smooth. Fruit quite small, roundish. Skin pale blue, covered with a white bloom. Flesh greenish, melting, juicy, and sweet; adheres to the stone. Last of August. Bears abundantly.

Apricot. Lind. Miller.

Apricot Plum of Tours.
Abricotée de Tours. } *Duh.*
Abricotee. }
Yellow Apricot.

Branches quite downy, nearly white. Fruit above medium size, roundish, with a deep suture or furrow. Skin yellow, dotted and tinged with red on the sunny side, covered with a white bloom. Flesh yellow, rather firm; separates from the stone; slightly bitter, until fully ripe, when it is melting, juicy, and high flavoured. Ripe the middle of August.

This is the true old Apricot plum of Duhamel. The Apricot plum of Thomson is an inferiour, clingstone, oval fruit, (with *smooth* branches,) fit only for cooking.

Blue Perdrigon.

Violet Perdrigon. } *Lind.*
Blue Perdrigon. }
Perdrigon Violette. *O. Duh.*
Brignole Violette.

A very old variety from Italy.

Branches downy. Fruit of medium size, oval. Skin reddish purple, with many brown dots, and a very thick whitish bloom. Flesh greenish-yellow, rather firm, sugary, adhering to the stone. Last of August.

Blue Gage. Lind. Mill.

Azure Hâtive. *Thomp.* Black Perdrigon.
Little Blue Gage.

An ordinary little round blue plum, the *Azure Hâtive* of the French.

Branches slender and downy. Fruit quite small and round. Skin dark blue, covered with light blue bloom. Flesh greenish, juicy, a little acid, somewhat rich, and separates from the stone. Ripe the middle of August.

Brevoort's Purple. Floy. Ken.

New York Purple. *Floy.* Brevoort's Purple Bolmar.
Brevoort's Purple Washington.

Branches long, smooth. Fruit large, oval. Skin reddish, covered with a violet bloom. Flesh yellowish, soft, juicy, not very sweet, but with considerable vinous flavour; adheres closely to the stone. Ripe the first of September.

Byfield. Man.

Branches smooth. Fruit small, round. Skin light yellow Flesh yellow, of good flavour; adheres to the stone, which is thick. Middle to last of August. Productive.

Corse's Admiral.

Raised by Henry Corse, Esq., of Montreal, Canada.

Branches quite downy. Fruit above medium size, oval. Skin light purple, covered with a pale lilac bloom. Flesh greenish-yellow, juicy and sprightly, but second rate in flavour, and adhering closely to the stone. A prolific tree. September.

Corse's Field Marshal.

Skin lively purplish-red. Fruit rather large, oval. Flesh greenish-yellow, juicy, but a little tart, adheres closely to the stone. Ripe middle of August.

Diamond. Thomp. Man.

English origin. Branches long, downy. Fruit of the largest size, oval. Skin black, covered with a blue bloom. Flesh deep yellow, coarse-grained, and rather dry—a little acid, and without flavour; separates from the long-pointed stone. First of September.

Dictator.

Raised by Henry Corse, of Montreal. Tree vigorous and hardy. Fruit very large, brownish-purple, covered with a bloom. Flesh juicy, rich, and high-flavoured. (Hov. Mag.)

Elfrey. Coxe. Man.

Elfry's Prune.

Branches smooth. Fruit small, oval. Skin blue. Flesh greenish, very sweet, dry and firm, parting very freely from the stone. Last of August.

Fotheringham. Thomp. Lind. Mill.

Sheen. Grove House Purple.

An old English plum of good quality.

Branches smooth. Fruit of medium size, obovate, with a distinct suture. Skin purple, covered with a pale blue bloom. Flesh pale greenish-yellow, juicy, sprightly, and rich, separating from the stone. Ripens about the middle of August.

Ghiston's Early.

Branches smooth, short-jointed. Fruit large, oval. Skin clear yellow, with a light bloom. Flesh yellow, separates from the stone, of pleasant flavour. Middle of August.

Gifford's Lafayette.

Tree very vigorous, and very productive. Fruit medium, long, oval, purple, with a bloom. Flesh greenish, coarse, juicy, not rich. Last of August.

Gwalsh. Thomp.

Fruit large, oblong, oval. Suture shallow. Skin deep purple, with a bloom. Stalk rather short, slightly sunk. Flesh greenish, coarse, not very juicy, sweet and pleasant. Adheres to the stone. First of September.

Holland. Pom. Man. Ken.

Blue Holland. Holland Prune.

Branches downy, rather slender. Fruit round, slightly flattened. Skin blue or light reddish-purple, covered with a blue bloom. Flesh juicy, melting, sweet and pleasant, separating freely from the stone. Ripening from the last of August to the middle of September.

Horse Plum. Thomp. Floy.

Large Early Damson. } *of Prince*
Sweet Damson. } *and Ken.*

Branches downy. Fruit of medium size, oval, with a deep suture on one side. Skin purple in the sun, reddish on the shaded side, with blue bloom. Flesh greenish-yellow, rather dry and acid, separates from the stone. Last of August.

Late Bolmer.

Fruit medium, roundish. Skin yellow, mottled with red next the sun. Flesh yellow, rather firm, sweet but not rich. Freestone. Middle of September.

Lewiston Egg.

Origin, Lewiston, N. Y. Tree vigorous and productive. Branches downy. Fruit medium size, oval. Skin pale yellow, with a bloom. Flesh yellow, adhering closely to the stone, not very sweet, and only second rate flavour. Last of August.

Long Scarlet.

Scarlet Gage. Red Gage, (*incorrectly of some.*)

American. Shoots downy. Fruit of medium size, oblong-obovate, swollen on one side of the suture, and tapering to the stalk. Skin bright red in the sun, pale yellowish-red on the shady side, covered with a fine lilac bloom. Flesh deep yellow, juicy, acid at first, but, if allowed to hang, it becomes rather rich and sweet. It adheres to the stone. Last of August.

Peoly's Early Blue.

This is a native fruit, of medium quality. Branches very downy. Fruit middle sized, oblong, suture scarcely visible. Skin very dark blue, covered with light blue bloom. Flesh yellow, of pleasant flavour, adhering partially to the stone. Ripens about the 10th of August.

Pond's Seedling.

Pond's Purple. *Ken.*

American origin. Branches downy. Fruit middle sized, roundish. Skin purple. Flesh yellowish, rather dry, separates from the stone, sweet, mingled with acid, of tolerable flavour. Ripens early in August.

Prince's Orange Gage.

Fruit medium, roundish-oval. Suture moderate. Skin yellow. Stalk long, set in an open cavity. Flesh light yellow, coarse, juicy, pleasant, but not rich. Adheres to the stone. First of September.

Red Perdrigon. Lind. Fors.

Perdrigon Rouge. *Nois.*

Foreign. Branches downy. Fruit of medium size, roundish, slightly oval. Skin fine deep red, much lilac bloom. Flesh bright yellow, a little crisp and firm, quite juicy and sweet, and parts from the stone. Last of August to the middle of September.

Rhinebeck Yellow Gage.

Origin, Rhinebeck, N. Y. Tree very strong and vigorous. Fruit large, oval. Suture deep. Skin yellow. Stalk rather long, inserted by a fleshy ring, without depression. Flesh coarse, juicy, sweet and pleasant. Adheres to the stone. First of September.

Siamese.

Branches long, slender, and smooth. Fruit mostly in pairs, distinct, but closely joined on one side, medium sized, obovate. Skin pale yellow, with a white bloom. Flesh yellow, juicy and sprightly, of second rate flavour, and adheres to the stone. Bears abundantly, and ripens about the 10th of September.

White Apricot. Pr. Pom. Man.

Fruit medium, roundish, yellow. Flesh rather firm, not sweet, but pleasant, clingstone. Middle of August.

White Perdrigon. Thomp. Nois.

Perdrigon blanc. *O. Duh.* Maitre Claude.
Brignole?

Branches downy. Fruit middle sized, oval, narrowing towards the stalk. Skin pale greenish-yellow, with numerous small white dots, thinly coated with bloom. Flesh pale yellow, sweet with a slight perfume, and adheres to the stone. Ripens last of August.

White Damson. Thomp. Lind.

Late Yellow Damson. Shailer's White Damson.
White Prune Damson. White Damascene.

Branches smooth, and of thrifty growth, very productive.

Fruit small, oval. Skin pale yellow, with a white bloom, and sprinkled with reddish-brown spots at maturity. Flesh adheres closely to the stone, yellow, and when fully ripe, of a rich, sprightly, sub-acid, agreeable flavour. Ripens about the last of September.

Ornamental Varieties.

There are few varieties of plums, which are considered purely ornamental. One, however, is a remarkable exception to this, as it is scarcely exceeded in beauty in the month of May by any other flowery shrub—we mean the DOUBLE FLOWERING SLOE. It is a large shrub, only 10 or 12 feet high, with quite slender shoots and leaves, but it is thickly sprinkled, every spring, with the prettiest little double white blossoms about as large as a sixpence, but resembling the Lady Banks' roses. It is one of the greatest favourites of the Chinese and Japanese—those flower-loving people.

The COMMON ENGLISH SLOE, or Blackthorn, (*Prunus spinosa,*) is rather an ornamental tree in shrubbery plantations. The branches are more thorny than those of the common damson, and the fruit is nearly round, quite black, but covered with a thick blue bloom. In the spring, this low tree is a perfect cloud of white blossoms.

The DOUBLE-BLOSSOMED PLUM has large and handsome double white flowers. Except in strong soils, however, they are apt to degenerate and become single, and are, indeed, always inferiour in effect to the Double Sloe.

The Cherry Plum we have already described. It is one of the fruit-bearing sorts.

Selection of Choice Varieties.

Rivers' Early Favourite, Green Gage, Imperial Ottoman, Jefferson, Lawrence's Favourite, Purple Favourite, Purple Gage, Coe's Golden Drop, McLaughlin, Imperial Gage, Howard's Favourite, Prince's Yellow Gage, Prune d'Agen, Reine Claude de Bevay, Schuyler Gage.

CHAPTER XXI.

THE PEAR.

Pyrus communis, L. *Rosaceæ*, of botanists.
Poirier, of the French; *Birnebaum*, German; *Peer*, Dutch; *Pero*, Italian; and *Pera*, Spanish.

THE Pear is, undeniably, the favourite fruit of modern times,

and modern cultivators. Indeed, we believe the Pear of modern times, thanks to the science and skill of horticulturists, is quite a different morsel for the palate, from the pear of two or three centuries ago. In its wild state it is one of the most austere of all fruits, and a *choke pear* of our fields, really a great improvement on the wild type, seizes one's throat with such an unmerciful gripe, as to leave behind it no soothing remembrances of nectar and ambrosia.

So long ago as the earliest time of the Romans, the pear was considerably cultivated. It was common in Syria, Egypt, and Greece, and from the latter country, was transplanted into Italy. "Theophrastus speaks of the productiveness of old pear trees, and Virgil mentions some pears which he received from Cato. Pliny in his 15th book describes the varieties in cultivation in his time, as exceedingly numerous; and mentions a number which were named after the countries from which they were received. Of all pears, he says, the Costumine is the most delicate and agreeable. The Falernian pear was esteemed for its juice; and the Tibernian, because it was preferred by the Emperor Tiberius. There were 'proud pears,' which were so called because they ripened early and would not keep, and 'winter pears,' pears for baking, as at the present day."* None of these old Roman varieties have been handed down to us, and we might believe some of them approached the buttery lusciousness of our modern pears, did not Pliny pithily add, most unfortunately for their reputation, "all pears whatsoever are but a heavy meat, unless they are well boiled or baked."

In fact the really delicious qualities of this fruit were not developed until about the seventeenth century. And within the last sixty years the pear, subjected to constant reproduction from seed by Van Mons and his followers, and to hybridizing or crossing by Mr. Knight and other English cultivators, appears, at length, to have reached almost the summit of perfection, in beauty, duration, and flavour. Of Professor Van Mons and his labours of a whole life, almost *devoted to pears*, we have already spoken in our first chapter. From among the 80,000 seedlings raised by himself, and the many thousands reared by other zealous cultivators abroad, especially in Belgium—the Eden of the pear tree—there have been selected a large number of varieties of high excellence. In this country, we are continually adding to the number, as, in our newer soil, the pear, following the natural laws of successive reproduction, is constantly appearing in new seedling forms. The high flavour of the Seckel pear, an American variety, as yet unsurpassed, in this respect, by any European sort, proves the natural congeniality of the climate of the northern states to this fruit.

* *Arboretum Britannicum.*

The pear tree is not a native of North America, but was introduced from the other continent. In Europe, Western Asia, and China, it grows wild, in company with the apple, in hedges and woody wastes. In its wild state, it is hardier and longer lived than the apple, making a taller and more pyramidal head, and becoming thicker in its trunk. There are trees on record abroad, of great size and age for fruit trees. M. Bosc mentions several which are known to be near 400 years old. There is a very extraordinary tree in Home Lacy, Herefordshire, England —a perry pear—from which were made more than once, 15 hogsheads of perry in a single year. In 1805 it covered more than half an acre of land, the branches bending down and taking root, and, in turn, producing others in the same way. Loudon, in his recent work on trees, says that it is still in fine health, though reduced in size.

One of the most remarkable pear trees in this country, is growing in Illinois, about ten miles north of Vincennes. It is not believed to be more than forty years old, having been planted by Mrs. Ockletree. The girth of its trunk one foot above the ground, is *ten feet*, and at nine feet from the ground, *six and a half feet;* and its branches extend over an area sixty-nine feet in diameter. In 1834 it yielded 184 bushels of pears, in 1840 it yielded 140 bushels. It is enormously productive always; the fruit is pretty large, ripening in early autumn, and is of tolerable flavour.* Another famous specimen, perhaps the oldest in the country, is the *Stuyvesant Pear* tree, originally planted by the old governor of the Dutch colony of New-York, more than two hundred years ago, and still standing, in fine vigour, on what was once his farm, but is now the upper part of the city, quite thickly covered with houses. The fruit is a pleasant summer pear, somewhat like a Summer Bonchretien.

Uses. The great value of the pear is as a dessert fruit. Next to this, it is highly esteemed for baking, stewing, preserving and marmalades. In France and Belgium the fruit is very generally dried in ovens, or much in the same way as we do the apple, when it is quite an important article of food.

Dessert pears should have a melting, soft texture, and a sugary, aromatic juice. Kitchen pears, for baking or stewing, should be large, with firm and crisp flesh, moderately juicy.

The juice of the pear, fermented, is called *Perry.* This is made precisely in the same way as cider, and it is richer, and more esteemed by many persons. In the midland counties of England, and in various parts of France and Germany, what are called perry pears—very hardy productive sorts, having an austere juice—are largely cultivated for this purpose. In several

* Rev. H. W. Beecher, in Hovey's Magazine.

places in our eastern states, we understand, perry is now annually made in considerable quantities. The fruit should be ground directly after being gathered, and requires rather more isinglass—(say 1½ oz. to a barrel,) to fine it, on racking, than cider. In suitable soil the yield of perry to the acre is usually about one third more than that of cider.

The wood is heavy and fine grained, and makes, when stained black, an excellent imitation of ebony. It is largely employed by turners for making joiners' tools. The leaves will dye yellow.

GATHERING AND KEEPING THE FRUIT. The pear is a peculiar fruit in one respect, which should always be kept in mind; viz. *that most varieties are much finer in flavour if picked from the tree, and ripened in the house*, than if allowed to become fully matured on the tree. There are a few exceptions to this rule, but they are very few. And, on the other hand, we know a great many varieties which are only second or third rate, when ripened on the tree, but possess the highest and richest flavour if gathered at the proper time, and allowed to mature in the house. This proper season is easily known, first, by the ripening of a few full grown, but worm-eaten specimens, which fall soonest from the tree; and, secondly, by the change of colour, and the readiness of the stalk to part from its branch, on gently raising the fruit. The fruit should then be gathered—or so much of the crop as appears sufficiently matured—and spread out on shelves in the fruit room* or upon the floor of the garret. Here it will gradually assume its full colour, and become deliciously melting and luscious. Many sorts which, ripened in the sun and open air, are rather dry, when ripened within doors are most abundantly melting and juicy. They will also last for a considerably longer period, if ripened in this way—maturing gradually, as wanted for use—and being thus beyond the risk of loss or injury by violent storms or high winds.

Winter dessert pears should be allowed to hang on the tree as long as possible, until the nights become frosty. They should then be wrapped separately in paper, packed in *kegs*, *barrels*, or *small boxes*, and placed in a cool, dry room, free from frost. Some varieties, as the D'Aremberg, will ripen finely with no other care than placing them in barrels in the cellar, like apples. But most kinds of the finer winter dessert pears, should be brought into a warm apartment for a couple of weeks before their usual season of maturity. They should be kept covered to prevent shrivelling. Many sorts that are comparatively tough if ripened in a cold apartment, become very melting,

* So important is the ripening of pears in the house that most amateurs of this fruit find it to their advantage to have a small room set apart, and fitted up with shelves in tiers, to be used solely as a *fruit room*.

buttery, and juicy, when allowed to mature in a room kept at the temperature of 60 or 70 degrees.

Propagation. The finer sorts of pears are continued or increased, by grafting and budding, and the stocks, on which to work, are either seedlings or suckers. Sucker stocks have usually such indifferent roots, they are so liable to produce suckers, continually, themselves, and are so much less healthy than seedlings, that they are now seldom used by good cultivators; though, if quite young and thrifty, they will often make good stocks.

Seedlings, however, are by far the best stocks for the pear, in all cases; and seedlings from strong growing, healthy pears, of common quality—such as grow about most farmers' gardens, are preferable, for stocks, to those raised from the best varieties—being more hardy and vigorous.

As it is usually found more difficult to raise a good supply of seedling pear stocks in this country, than of any other fruit tree, we will here remark that it is absolutely necessary, to ensure success, that two points be observed. The first, is to clean and sow the seed as soon as may be, after the fruit is well matured; the second, to sow it only in deep rich soil. It should be previously trenched—if not naturally deep—at least twenty inches or two feet deep, and enriched with manure or compost mixed with ashes. This will give an abundant supply of nutriment to the young seedlings, the first year—without which, they become starved and parched, after a few inches' growth, by our hot and dry summer, when they frequently fall a prey to the aphis and other insects at the root and top. A mellow, rich soil, whose depth ensures a supply of moisture, will give strong seedlings, which are always, at two years' growth, fit to go into the nursery rows for budding. While a dry, thin soil will seldom produce good stocks, even in half a dozen years.

The seeds should be sown precisely like those of the apple, in broad drills, and the treatment of the stocks, when planted in the rows for budding, is quite similar. Budding is almost universally preferred by us, for propagating the pear, and this tree takes so readily, that very few failures can happen to an experienced hand. About the first of August, in this latitude, is the proper season for performing this operation.

We may add here, that one year old pear seedlings, are often winter-killed, when the autumn has not been such as to ripen the wood thoroughly. A few branches of evergreens, or some slight covering laid along the rows, will prevent this. Or, they may be laid in by the heels, in a sheltered place.

The *thorn* makes very good stocks for the pear, except, that if grafted above ground, the tree is often apt to be broken off at the point of union, by high winds. This is obviated by grafting a little below the surface. Grafting on the thorn is a very use-

ful practice for strong clayey soils, as, on such stocks, the pear may be grown with success, when it would not otherwise thrive. It also comes rather earlier into bearing. Grafting on the *mountain ash* is thought to render the pear more hardy, and it retards the blossoming so much as to prevent their being injured by spring frosts. The pear is sometimes budded on the apple, but it is then usually very short-lived.

For rendering the pear *dwarf*, the Quince stock is almost universally used, as the pear unites readily with it, becomes quite dwarf in habit, and bears very early. Some large growing pears—as the Duchess of Angoulême—extremely liable to be blown off the tree, bear much better on the quince stock, and others are considerably improved in flavour by it. The dwarf pear, however, it must be confessed, rather belongs to the small garden of the amateur, than to the orchardist, or him who desires to have regular large crops, and long-lived trees. The dwarf tree is usually short-lived, seldom enduring more than a dozen years in bearing—but it is a pretty and economical way of growing a good many sorts, and getting fruit speedily, in a small garden.*

The pear not being very abundantly supplied with fibrous roots, should never be transplanted, of large size, from the nursery. Small, thrifty plants, five or six feet high, are much to be preferred.

Soil, situation, and culture. The best soil for this fruit tree, is a *strong loam* of moderate depth, on a dry subsoil. The pear will, indeed, adapt itself to as great a variety of soils as any fruit tree, but, in unfavourable soils, it is more liable to suffer from disease than any other. Soils that are damp during any considerable portion of the year, are entirely unfit for the pear tree; and soils that are over-rich and deep, like some of the western alluvials, force the tree into such over luxuriant growth, that its wood does not ripen well, and is liable to be killed by winter blight. The remedy, in this case, consists in planting the trees on slightly raised hillocks—say eight inches above the level of the surface, and using lime as a manure. Soils that are too light, on the other hand, may be improved by trenching, if the subsoil is heavier, or by top dressing with heavy muck and river mud, if it is not.

In a climate rather cold for the pear, or on a cold soil, it is advantageous to plant on a southern slope, but in the middle States, in warm soils, we do not consider a decidedly southern exposure so good as other rather cooler ones.

* Whether the Pear can be successfully cultivated on the Quince for market is yet a debateable question; but that dwarfs are a great acquisition to the garden where large standards are inadmissible is unquestioned. We believe the promise of some varieties on quince warrants the expectation that they will be found profitable for general cultivation.

The pear succeeds so well as an open standard, and requires so little care for pruning—less, indeed, in the latter respect, than any other fruit tree, that training is seldom thought of, except in the gardens of the curious or skilful. The system of *quenouille* or *distaff* training, an interesting mode of rendering trees very productive in a small space, we have already fully described in p. 37, as well as root pruning for the same purpose in p. 32.

In orchard culture, the pear is usually planted about thirty feet distant each way; in fruit gardens, where the heads are somewhat kept in by pruning, twenty feet is considered sufficient by many.

Pear trees, in a bearing state, where the growth is no longer luxuriant, should have, *every autumn*, a moderate top dressing of manure, to keep them in good condition. This, as it promotes steady and regular growth, is far preferable to occasional heavy manuring, which, as will presently be shown, has a tendency to induce the worst form of blight to which this tree is subject.

Diseases. As a drawback to the, otherwise, easy cultivation of this fine fruit, the pear tree is, unfortunately, liable to a very serious disease, called the *pear tree blight*, or *fire blight*, appearing irregularly, and in all parts of the country; sometimes in succeeding seasons, and, again, only after a lapse of several years; attacking, sometimes, only the extremities of the limbs, and, at other times, destroying the whole tree; producing, occasionally, little damage to a few branches, but often, also, destroying, in a day or two, an entire large tree; this disease has been, at different times, the terror and despair of pear growers. Some parts of the country have been nearly free from it, while others have suffered so much as almost to deter persons from extending the cultivation of this fine fruit. For nearly an hundred years, its existence has been remarked in this country, and, until very lately, all notions of its character and origin have been so vague, as to lead to little practical assistance in removing or remedying the evil.

Careful observation for several years past, and repeated comparison of facts with accurate observers, in various parts of the country, have led us to the following conclusions:

1*st*. That what is popularly called the pear blight, is, in fact, two distinct diseases. 2*nd*. That one of these is caused by an insect, and the other by sudden freezing and thawing of the sap in unfavourable autumns. The first, we shall therefore call the *insect blight*, and the second, the *frozen-sap blight*.

1. The insect blight. The symptoms of the *insect blight* are as follows: In the month of June or July, when the tree is in full luxuriance of growth, shoots at the extremities of the branches, and often extending down two seasons' growth, are

observed suddenly to turn brown. In two or three days the leaves become quite black and dry, and the wood so shrivelled and hard as to be cut with difficulty with a knife. If the branch is allowed to remain, the disease sometimes extends a short distance further down the stem, but, usually, not much further than the point where the insect had made his lodgment. The insect which causes this blight, was first discovered by the Hon. John Lowell, of Boston, in 1816, and was described by Professor Peck, under the name of *Scolytus pyri*. It is very minute, being scarcely one-tenth of an inch long; and it escapes from the branch almost as soon as, by the withering of the leaves, we are aware of its attack; hence, it is so rarely seen by careless observers. In the perfect state, it is a very small beetle, deep brown, with legs of a paler colour. Its thorax is short, convex, rough in front, and studded with erect bristles. The wing covers are marked with rows of punctured points, between which are also rows of bristles, and they appear cut off very obliquely behind.

This insect deposits its egg some time in July or August, either behind, or below a bud. Whether the egg hatches at once, we are not aware, but the following spring, the small grub or larva grows through the sap wood or tender alburnum, beginning at the root of the bud, and burrows towards the centre of the stem. Around this centre or pith, it forms a circular passage, sometimes devouring it altogether. By thus perforating, sawing off, or girdling, internally, a considerable portion of the vessels which convey the ascending sap, at the very period when the rapid growth of the leaves calls for the largest supply of fluid from the roots, the growth and the vitality of the branch are checked, and finally extinguished. The larva about this time, completes both its transformation, and its passage out, and, in the beetle form, emerges, with wings, into the air, to seek out new positions for laying its eggs and continuing its species. The small passage where it makes its exit, may now more easily be discovered, below or by the side of the bud, resembling a hole bored with a needle or pin.

It is well to remark here, that the attack of this blight insect is not confined to the pear, but in some parts of the country we have observed it preying upon the apple and the quince in the same manner. In the latter tree, the shoots that were girdled were shorter, and at the extremities of the branches only; not leading, therefore, to such serious consequences as in the pear.

The ravages of the *insect blight*, we are inclined to think, do not extend much below the point where the insect has deposited its egg, a material point of difference from the *frozen-sap blight* which often poisons the system of the whole tree, if allowed to remain, or if, originally, very extensive.

The remedy for the insect blight is very distinct. It is that

originally suggested by Mr. Lowell, which we and many others have pursued with entire success, when the other form of the disease was not also present. The remedy consists, *at the very first indications of the existence of the enemy*, in cutting off and burning the diseased branch, a foot below the lowest mark of discoloration. The insect is usually to be found at the bottom of this blackened point, and it is very important that the branches be removed early, as the *Scolytus* is now about emerging from his burrow, and will speedily escape us, to multiply his mischief elsewhere. If there is much appearance of the insect blight, the tree should be examined every noon, so long as there are any indications of disease, and the amputated branches carried at once to the fire.

II. The frozen-sap blight. We give this term to the most formidable phase of this disease that affects the pear tree. Though it is, by ordinary observers, often confounded in its effects, with the insect blight, yet it has strongly characteristic marks, and is far more fatal in its effects.

The symptoms of the *frozen-sap blight* are the following: First. The appearance, at the season of winter or spring pruning, of a *thick*, *clammy* sap, of a sticky nature, which exudes from the wounds made by the knife; the ordinary cut showing a clean and smooth surface.

Second. The appearance, in the spring, on the bark of the trunk or branches, often a considerable distance from the extremities, of black, shrivelled, dead, patches of bark.

Third. In early summer months, the disease fully manifests itself by the extremities shrivelling, turning black, and decaying, as if suddenly killed. If these diseased parts are cut off, the inner bark and heart-wood will be found dark and discoloured some distance below where it is fresh and green outside. If the tree is slightly affected only, it may pass off with the loss of a few branches, but if it has been seriously tainted, the disease, if not arrested, may, sooner or later, be carried through the whole system of the tree, which will gradually decline, or entirely perish.

To explain the nature of this disease, we must first premise that, in every tree, there are two currents of sap carried on, 1st, the upward current of sap, which rises through the outer wood, (or *alburnum*,) to be digested by the leaves; 2d, the downward current, which descends through the inner bark, (or *liber*,) forming a deposit of new wood on its passage down.*

Now let us suppose, anterior to a blight season, a very sudden and early winter, succeeding a damp and warm autumn.† The

* Being distributed towards the centre of the stem by the medullary rays which communicate from the inner bark to the pith.

† Which always happens previously to a summer when the blight is

summer having been dry, the growth of trees was completed early, but this excess of dampness in autumn, forces the trees into a vigorous second growth, which continues late. While the sap vessels are still filled with their fluids, a sharp and sudden freezing takes place, or is, perhaps, repeated several times, followed, in the day time, by bright sun. The descending current of sap becomes thick and clammy, so as to descend with difficulty; it chokes up the sap-vessels, freezes and thaws again, loses its vitality, and becomes dark and discoloured, and in some cases so poisonous, as to destroy the leaves of other plants, when applied to them. Here, along the inner bark, it lodges, and remains in a thick, sticky state all winter. If it happens to flow down till it meets with any obstruction, and remains in any considerable quantity, it freezes again beneath the bark, ruptures and destroys the sap-vessels, and the bark and some of the wood beneath it shrivels and dies.

In the ensuing spring, the upward current of sap rises through its ordinary channel—the outer wood or alburnum—the leaves expand, and, for some time, nearly all the upward current being taken up to form leaves and new shoots, the tree appears flourishing. Toward the beginning of summer, however, the leaves commence sending the downward current of sap to increase the woody matter of the stem. This current, it will be remembered, has to pass downward through the inner bark or *liber*, along which still remain portions of the poisoned sap, arrested in its course the previous autumn. This poison is diluted, and taken up by the new downward current, distributed toward the pith, and along the new layers of alburnum, thus tainting all the neighbouring parts. Should any of the adjacent sap-vessels have been ruptured by frost, so that the poison thus becomes mixed with the still ascending current of sap, the branch above it immediately turns black and dies, precisely as if poison were introduced under the bark. And very frequently it is accompanied with precisely the odour of decaying frost-bitten vegetation.*

very prevalent, and will be remembered, by all, as having been especially the case in the autumn of 1843, which preceded the extensive blight of the past season.

* We do not know that this form of blight is common in Europe, but the following extract from the celebrated work of Duhamel on fruit trees, published in 1768, would seem to indicate something very similar, a long time ago.

"The sap corrupted by putrid water, or the excess of manure, bursts the cellular membranes in some places, extends itself between the wood and the bark, which it separates, and carries its poisonous acrid influence to all the neighbouring parts, like a gangrene. When it attacks the small branches, they should be cut off; if it appears in the large branches or body of the tree, all the cankered parts must be cut out down to the sound wood, and the wound covered with composition. If the evil be produced by manure or stagnant water, (and it may be produced by other causes,)

The foregoing is the worst form of the disease, and it takes place when the poisoned sap, stagnated under the bark in spots, remains through the winter in a thick semi-fluid state, so as to be capable of being taken up in the descending current of the next summer. When, on the other hand, it collects in sufficient quantity to freeze again, burst the sap vessels, and afterwards dry out by the influence of the sun and wind, it leaves the patches of dead bark which we have already described. As part of the woody channels which convey the ascending sap probably remain entire and uninjured, the tree or branch will perhaps continue to grow the whole season and bear fruit, as if nothing had happened to it, drying down to the shrivelled spots of bark the next spring. The effect, in this case, is precisely that of girdling only, and the branch or tree will die after a time, but not suddenly.

From what we have said, it is easy to infer that it would not be difficult on the occurrence of such an autumn—when sudden congelation takes place in unripened wood—to predict a blight season for the following summer. Such has several times been done, and its fulfilment may be looked for, with certainty, in all trees that had not previously ripened their wood.*

So, also, it would and does naturally follow, that trees in a damp, rich soil, are much more liable to the frozen-sap blight than those upon a dryer soil. In a soil over moist or too rich,

the old earth must be removed from the roots, and fresh soil put in its place, and means taken to draw off the water from the roots. But if the disease has made much progress on the trunk, the tree is lost." *Traité des Arbres Fruitiers*, vol. 11, p. 100.

* Since the above was written, we have had the pleasure of seeing a highly interesting article by the Rev. H. W. Beecher, of Indiana, one of the most intelligent observers in the country. Mr. Beecher not only agrees in the main with us, but he fortifies our opinion with a number of additional facts of great value. We shall extract some of this testimony, which is vouched for by Mr. B., and for the publication of which the cultivators of pears owe him many thanks.

"Mr. R. Ragan, of Putnam county, Ind., has for more than twelve years, suspected that this disease originated in the fall previous to the summer on which it declares itself. During the last winter, Mr. Ragan predicted the blight, as will be remembered by some of his acquaintances in Wayne Co., and in his pear orchards he marked the trees that would suffer, and pointed to the spot which would be the seat of the disease, and his prognostications were strictly verified. Out of his orchard of 200 pear trees, during the previous blight of 1832, only four escaped, and those had been transplanted, and had, therefore, made little or no growth.

"Mr. White, a nurseryman, near Mooresville, Ind., in an orchard of over 150 trees, had not a single case of blight in the year 1844, though all around him its ravages were felt. What were the facts in this case? His orchard is planted on a mould-like piece of ground, is high, of a sandy, gravelly soil; earlier by a week than nursery soils in this country; and in the summer of 1843, his trees grew through the summer, ripened and shed their leaves early in the fall, and during the warm spell made no second growth."

the pear is always liable to make late second growths, and its wood will often be caught unripened by an early winter. For this reason, this form of blight is vastly more extensive and destructive in the deep, rich soils of the western states, than in the dryer and poorer soils of the east. And this will always be the case in over rich soils, unless the trees are planted on raised hillocks, or their luxuriance checked by root-pruning.

Again, those varieties of the pear, which have the habit of maturing their wood early, are very rarely affected with the frozen-sap blight. But late growing sorts are always more or less liable to it, especially when the trees are young, and the excessive growth is not reduced by fruit-bearing. Every nurseryman knows that there are certain late growing sorts which are always more liable to this blight in the nursery. Among these we have particularly noticed the Passe Colmar and the Forelle, though when these sorts become bearing trees, they are not more liable than many others. The Seckel pear is celebrated for its general freedom from blight, which we attribute entirely to its habit of making short jointed shoots, and ripening its wood very early.

To distinguish the blight of the frozen-sap from that caused by the attack of the *Scylotus pyri*, is not difficult. The effects of the latter cease below the spot where the insect has perforated and eaten its burrow in the branch. The former spreads gradually down the branch, which, when dissected, shows the marks of the poison in the discoloration of the inner bark and the pith, extending down some distance below the external marks of injury. If the poison becomes largely diffused in the tree, it will sometimes die outright in a day or two; but if it is only slightly present, it will often entirely recover. The presence of black, dry, shrivelled spots of bark on the branches, or soft sappy spots, as well as the appearance of thick clammy sap in winter or spring pruning, are the infallible signs of the frozen-sap blight.

The most successful remedies for this disastrous blight, it is very evident, are chiefly preventive ones. It is, of course, impossible for us to avoid the occasional occurrence of rainy, warm autumns, which have a tendency to urge the trees into late second growth. The principal means of escaping the danger really lies in always studiously avoiding a damp soil for the fruit tree. Very level or hollow surfaces, where heavy early autumnal rains are apt to lie and saturate the ground, should also be shunned. And any summer top dressing or enriching calculated to stimulate the tree into late growth, is pernicious. A rich, dry soil, is, on the whole, the best, because there the tree will make a good growth in time to ripen fully its wood, and will not be likely to make second growth. A rich, moist soil, will, on the contrary, serve continually to stimulate the

tree to new growth. It is in accordance with this, that many persons have remarked, that those pear trees growing in common meadow land, were free from blight in seasons when those in the rich garden soils were continually suffering from it.

The first point then should be to secure a rich but dry, well drained soil. Cold aspects and soils should be avoided, as likely to retard the growth and ripening of the wood.

The second is to reject, in blighted districts, such varieties as have the habit of making wood late, and choosing rather those of early habit, which ripen the wood fully before autumn.

Severe summer pruning, should it be followed by an early winter, is likely to induce blight, and should therefore be avoided. Indeed, we think the pear should always be pruned in winter or early spring.*

As a remedy for blight actually existing in a tree, we know of no other but that of freely cutting out the diseased branches, at the earliest moment after it appears. The amputation should be continued as far down as the least sign of discoloration and consequent poisoning is perceptible, and it should not be neglected a single day after it manifests itself. A still better remedy, when we are led to suspect, during the winter, that it is likely to break out in the ensuing summer, is that of carefully looking over the trees before the buds swell, and cutting out all branches that show the discoloured or soft sappy spots of bark that are the first symptoms of the disease.

Finally, as a preventive, when it is evident, from the nature of the season and soil, that a late autumnal growth will take place, we recommend laying bare the roots of the trees for two or three weeks. Root pruning will always check any tendency to over-luxuriance in particular sorts, or in young bearing trees, and is therefore a valuable assistance when the disease is feared. And the use of lime in strong soils, as a fertilizer, instead of manure, is worthy of extensive trial, because lime has a tendency to throw all fruit trees into the production of short-jointed fruit-spurs, instead of the luxuriant woody shoots induced by animal manure.

In gardens, where, from the natural dampness of the soil or locality, it is nearly impossible to escape blight, we recommend that mode of dwarfing the growth of the trees—conical standards, or *quenouilles*, described in the section on pruning. This mode can scarcely fail to secure a good crop in any soil or climate where the pear tree will flourish.

* The only severe case of blight in the gardens here, during the summer of 1844, was in the head of a Gilogil pear—a very hardy sort, which had never before suffered. The previous midsummer it had been severely pruned, and headed back, which threw it into late growth. The next season nearly the whole remaining part of the tree died with the frozen-sap blight.

After the blight, the other diseases which affect the pear tree are of little moment. They are chiefly the same as those to which the apple is liable, the same insects occasionally affecting both trees, and we therefore refer our readers to the section on the apple tree.

There is, however, a *slug worm*, which occasionally does great damage on the leaves of the pear tree, which it sometimes entirely destroys. This slug is the *Selandria cerasi* of Harris. It appears on the upper side of the leaves of the pear tree, from the middle of June till the middle of July. It is nearly half an inch long when fully grown, olive coloured, tapering from the head to the tail, not much unlike in shape a miniature tadpole. The best destructive for this insect is Mr. Haggerston's mixture of whale oil soap and water,* thoroughly showered or sprinkled over the leaves. In the absence of this, we have found ashes or quicklime, sifted or sprinkled over the leaves, early in the morning, to have an excellent effect in ridding the trees of this vigilant enemy.

Varieties. The varieties of pear have so multiplied within the last thirty years, that they may almost be considered endless. Of the new varieties, Belgium has produced the greatest number of high quality; England and France many of excellence; and, lastly, quite a number of valuable sorts have originated in this country, to which some additions are made annually. The latter, as a matter of course, are found even more generally adapted to our climate than any foreign sorts. But we believe the climate of the middle States is so nearly like that of Belgium, that the pear is grown here as a standard to as great perfection as in any other country.

More than 700 kinds of pears, collected from all parts of the world, have been proved in the celebrated experimental garden of the Horticultural Society of London. Only a small proportion of these have been found of first rate quality, and a very large number of them are of little or no value. The great difficulty, even yet, seems to be, to decide which are the really valuable sorts, worth universal cultivation. We shall not, perhaps, arrive at this point, in this country, for several years—not until all the most deserving sorts have had repeated trials—and the difficulty is always increased by the fact of the difference of climate and soil. A variety may be of second quality in New-England, and of the first merit in Pennsylvania or Ohio. This, however, is true only to a very limited extent, as the fact that most sorts of the first character receive nearly the same praise in Belgium, England, and all parts of this country, clearly proves. High flavour, handsome appearance, productiveness,

* See page 54.

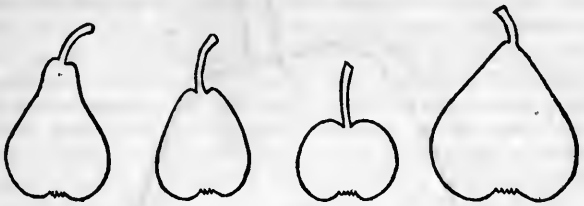
and uniformly good flavour in all seasons—these are the criterions of the first class of pears.*

Most of the finer varieties of pears have not the necessary hardihood to enable them to resist, perfectly uninjured, the violent atmospheric changes of our climate, except under favourable circumstances, consequently the fruit is more or less variable in quality; and this is more particularly true of some that come to us from abroad with promise of the highest excellence, and to pronounce an abiding judgment upon their merits requires many years' experience, and careful observation under different circumstances, and in various localities. And it must be borne in mind, that although young trees give fruit of nearly or quite full size and beauty, yet perfection of flavour is only to be expected from trees of more mature age. The inference is not legitimate that a variety which exhibits great excellence in Belgium, or some of the districts of France, will exhibit generally in all localities in the United States the same excellence; but the supposition is fair, and borne out by some experience, that those which possess excellence of a particular character in an eminent degree in Europe, will generally exhibit the same in particular localities in this country. We would instance such vigorous growers, with pretty solid flesh, as the following: Belle Lucrative, Rostizer, Duchess d'Angoulême, Beurre Hardy, &c. To produce satisfactory results in the cultivation of pears, some of its wants must always be complied with, such as good depth of soil, sufficient drainage, and proper enrichment.

In describing pears, we shall, as usual, designate the size by comparison, as follows: *Large*, as the Beurré Diel or Bartlett; *medium*, as the Doyenné or Virgalieu; *small*, as the Seckel. With regard to form, 1st. *Pyriform*, (blaze form,) by which some recurvation of the perpendicular lines bounding the sides is intended, as Andrews, and the form is further divided into *acute*, as Beurré Bose; *obtuse*, as Beurré Diel; *elongated*, as Dix and Louise Bonne de Jersey; and *depressed* pyriform, as Winter Nelis. 2d. *Obovate*, or egg-shaped, as Washington; *turbinate*, as Bloodgood; *obconic*, (a form related to the two latter,) but with a broader base, as Buffum, or *Truncate obconic*, as Easter Beurré or White Doyenne. 3d. *Oblate*, as Fulton, and *Bergamot-*

* The most successful cultivator of pears in this country, whose collection comprises hundreds of varieties, lately assured us, that if he were asked to name all the sorts that he considered of *unvarying and unquestionable excellence* in all respects, he could not count more than 20! It may then be asked, why do all cultivate so large a variety. We answer, because the quality of many is yet not fully decided; again, there is a great difference in taste, as to the merits of a given sort; there are also some sorts so productive, or handsome, &c., that they are highly esteemed, though only second rate. In a work like the present, we are also obliged to describe many sorts of second quality, in order to assist in identifying them, as they are already in general cultivation.

shaped (i. e. oblate, inclining to conic,) as Gansel's Bergamot. 4th. *Pyramidal*, the lines extending upward from the broad base by right lines or nearly so, as Delies d'Hardenpont of Belgium.



With regard to the texture of the flesh; *buttery*, as the Doyenné and Bartlett; *crisp*, as the Summer Bonchretien; *juicy*, as the Napoleon, and St. Germain; as, in apples, the blossom end is called the *eye*, the remains of the blossom, the *calyx*, and the hollow in which it is placed, the *basin*.

We have placed the pears in three classes nearly corresponding to the grades of quality adopted by the American Pomological Congress, of "best," "very good," and "good;" but the third class, although containing the "good," may be considered nearly equivalent to a rejected list.

CLASS I.

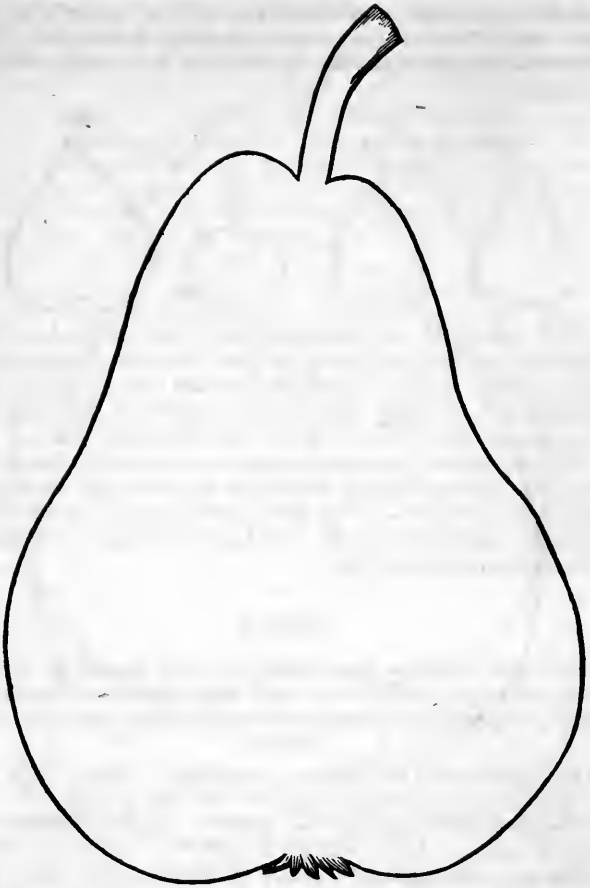
This class contains those which are well known to be of unexceptionable quality, and have been found to thrive in almost every situation suited to the cultivation of the pear.

Bartlett, or Williams's Bonchretien. Thomp. Man.

Bartlett, *of all American gardens.* De la Vault.
Williams's Bonchretien. *Thomp. Lind.* Clement Doyenné.
Poire Guillaume, *of the French.*

This noble pear is, justly, one of the most popular of all the summer varieties. Its size, beauty, and excellence, entitle it to this estimation, apart from the fact that it bears very early, regularly, and abundantly. It is an English variety, originated about 1770, in Berkshire, and was afterwards propagated by a London grower by the name of Williams. When first introduced to this country its name was lost, and having been cultivated and disseminated by Enoch Bartlett, Esq., of Dorchester, near Boston, it became so universally known as the *Bartlett* pear, that it is impossible to dispossess it now.* It suits our climate admirably, ripening better here than in England, and has

* The first imported tree in Mr. Bartlett's grounds, was sent from England in 1799.



Bartlett, or William's Bonchretien.

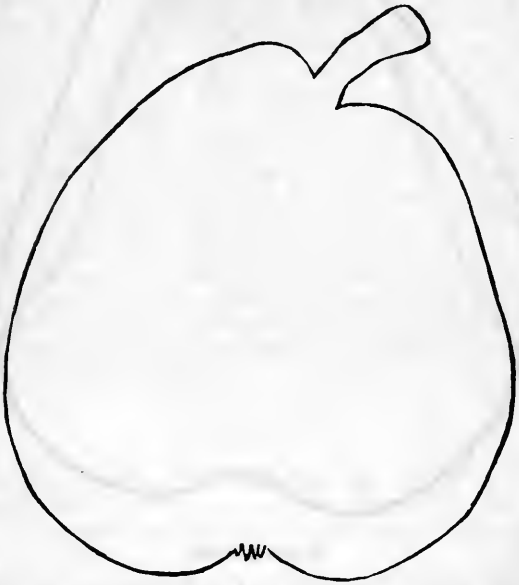
the unusual property of maturing perfectly in the house, even if it is picked before it is full grown. It has no competitor as a summer market fruit. The tree grows upright, with thrifty, yellowish-brown shoots, and narrow, folded leaves.

Fruit of large size, irregularly pyramidal. Skin very thin and smooth, clear yellow, (with a soft blush on the sunny side, in exposed specimens,) rarely marked with faint russet. Stalk one to one and a half inches long, stout, inserted in a shallow, flat cavity. Calyx open, set in a very shallow, obscurely plaited basin. Flesh white, and exceedingly fine-grained and buttery;

it is full of juice, sweet, with a highly perfumed, vinous flavour. (In damp or unfavourable soils, it is sometimes slightly acid.) Ripens from last of August to middle and last of September.

Beurré Gris d'Hiver Nouveau. Al. Pom.

Beurré Gris d'Hivēr. Beurré Gris Supérieur.
" Gris d'Luçon. " de Fontenay.



Beurré Gris d'Hiver Nouveau.

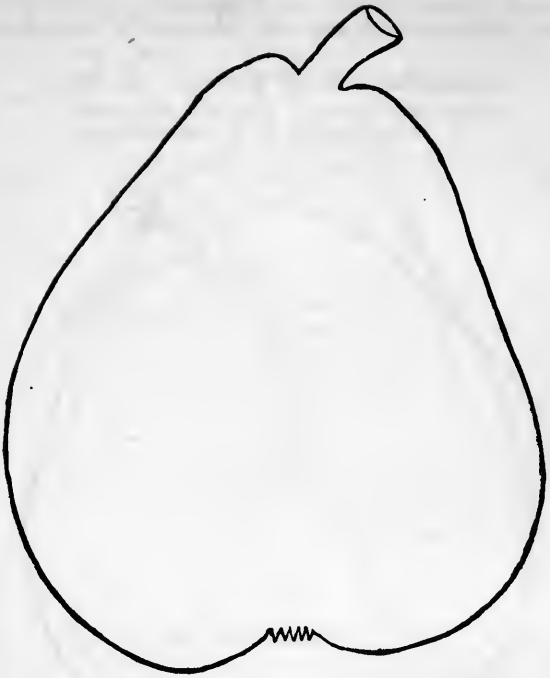
Tree not very vigorous, but productive, young wood, dark reddish brown. Fruit medium, obovate, truncate, remotely pyriform. Skin golden russet, with a fine sunny cheek, and sprinkled with dots. Stalk very stout, very much inclined, inserted by a lip in a small depression. Calyx very small and open, basin very small. Flesh somewhat granular, juicy, buttery, melting. Flavour rich and sugary, with a very peculiar aroma. November, February.

Beurré d'Anjou. Ken.

Ne Plus Meuris of the French.

A noble fruit said to be of French origin. Tree vigorous; young shoots yellowish brown, very productive, succeeds well on quince.

Fruit large, obovate, obtusely-pyriform, some times nearly



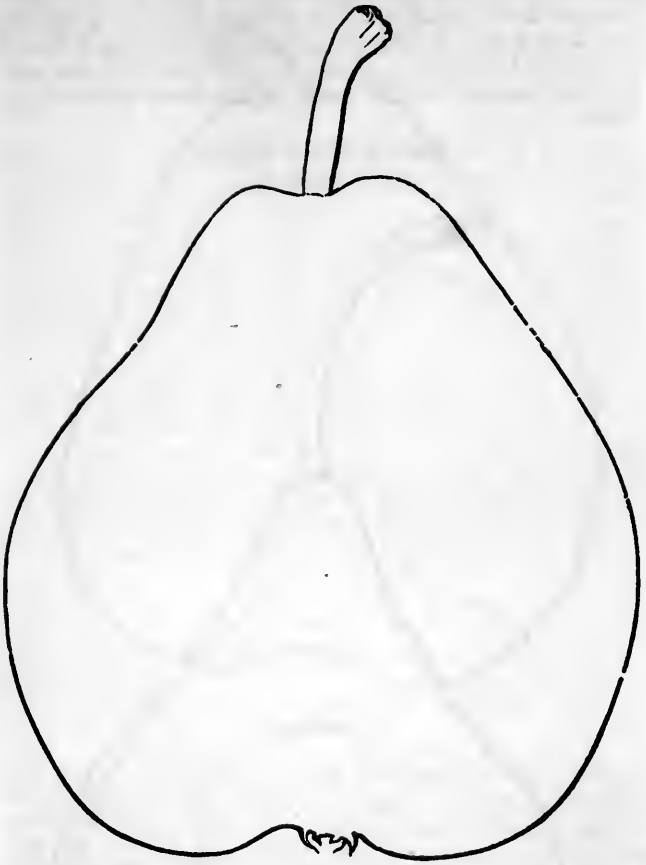
Beurré d'Anjou.

globular. Stem short, thick and fleshy, inserted in a cavity, surrounded by russet. Calyx very small, open, stiff, in an exceedingly small basin, surrounded by russet. Skin greenish, sprinkled with russet, sometimes shaded with dull crimson, and sprinkled thickly with brown and crimson dots. Flesh whitish, not very fine, melting, juicy, with a brisk vinous flavour, pleasantly perfumed. October, November.

Beurré Diel. Thomp. Lind. P. Mag.

Diel's Burterbirne.	Beurré Royale.	Beurré d'Yelie.
Diel.	Dorothée Royale.	De Melon.
Dorothée Royale.	Gros Dillen.	Melin de Kops.
Grosse Dorothée.	Dillen.	Beurré Magnifique.
Sylvanche vert d'hiver	Des Trois Tours.	Beurré Incomparable.
	Mabille.	

A noble Belgian fruit, raised from seed, in 1805, by Dr. Van Mons, and named in honour of his friend Dr. Augustus Fre-



Beurré Diel.

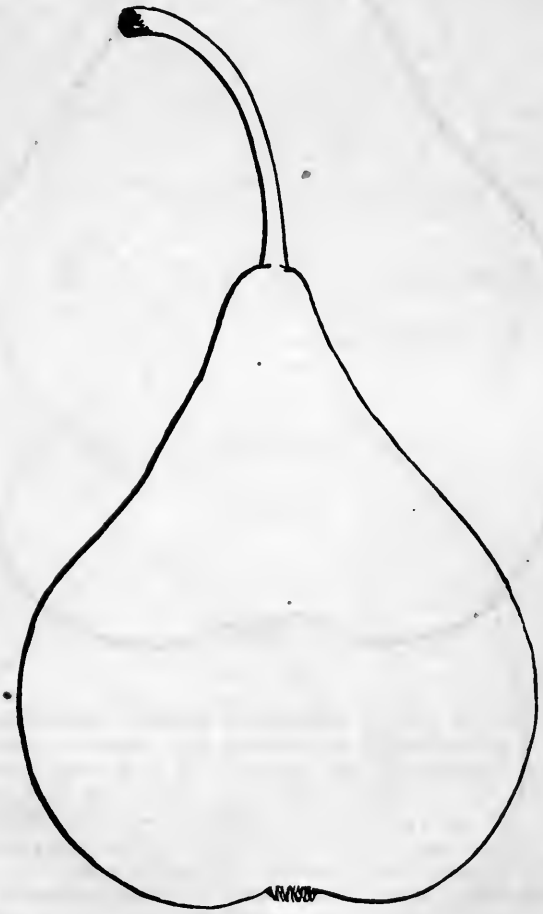
derick Adrien Diel, a distinguished German pomologist. Its vigour, productiveness and beauty, have made it already a general favourite with our planters. It is in every respect, a first rate fruit in favourable situations, but on very young trees and in cold soils, it is apt to be rather coarse and astringent. The tree has long, very stout, twisting branches, and is uncommonly vigorous. Young shoots dark grayish-brown.

Fruit large, varying from obovate to obtuse-pyriform. Skin rather thick, lemon yellow, becoming orange yellow, marked with large brown dots, and marblings of russet. Stalk an inch to an inch and three quarters long, stout, curved, set in a rather

uneven cavity. Calyx nearly closed, and placed in a slightly furrowed basin. Flesh yellowish-white, a little coarse grained, especially at the core, but rich, sugary, half melting, and in good specimens, buttery and delicious. In eating, in this country, from September to December, if picked and ripened in the house.

Beurré Bosc. Thomp.

Bosc's Flaschenbirne.

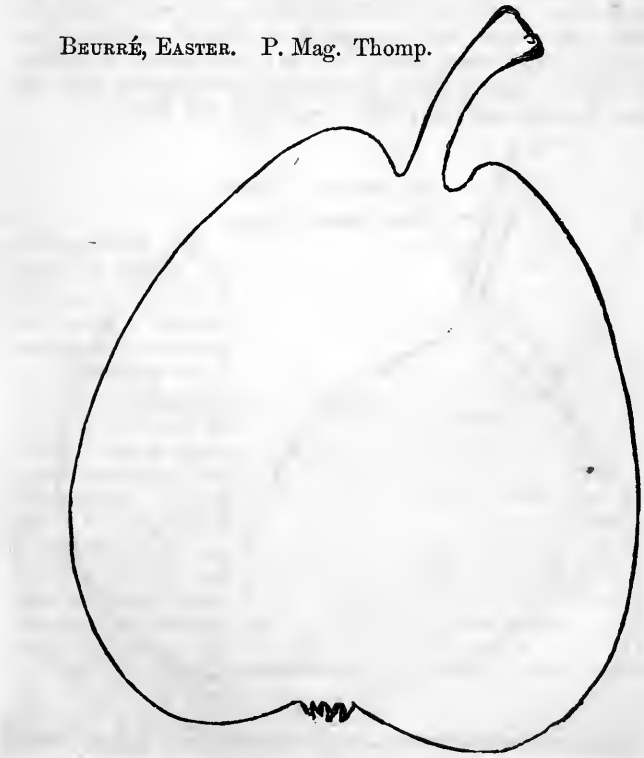


Beurré Bosc.

The Beurré Bosc is a pear to which we give our unqualified

praise. It is large, handsome, a regular bearer, always perfect, and of the highest flavour. It bears singly, and not in clusters, looking as if thinned on the tree, whence it is always of fine size. It was raised in 1807 by Van Mons, and named Beurré Bosc in honour of M. Bosc, a distinguished Belgian cultivator. Having also been received at the garden of the Horticultural Society of London under the name of Beurré Bosc, Mr. Thompson thought it best to retain this name, as less likely to lead to a confusion with the Calebasse, a distinct fruit. The tree grows vigorously; shoots long, brownish olive.

Fruit large, pyriform, a little uneven, tapering long and gradually into the stalk. Skin pretty smooth, dark yellow, a good deal covered with streaks and dots of cinnamon russet, and slightly touched with red on one side. Stalk one to two inches long, rather slender, curved. Calyx short, set in a very shallow basin. Flesh white, melting, very buttery, with a rich, delicious and slightly perfumed flavour. Ripens gradually from the last of September to the last of October.

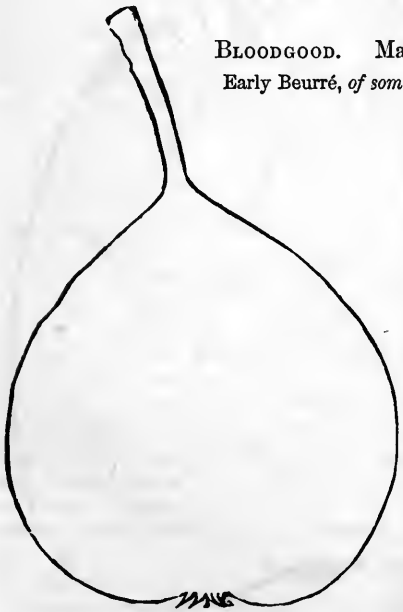


Beurré Easter.

Bergamotte de la Pentecôte.
Beurré de la Pentecôte.
Beurré d'Hiver de Bruxelles.
Doyenné d'Hiver.
Doyenné du Printemps.
Beurré Roupé.
Du Pâtre.
Beurré de Pâques.
Philippe de Pâques.
Bezi Chaumontelle tres gros.
Chaumontel tres gros.
Canning.
Seigneur d'Hiver

The Easter Beurré is considered abroad, one of the very best late winter or spring pears. It seems to require a rather warmer climate than that of the eastern states, to arrive at full perfection, and has disappointed the expectation of many cultivators. It bears well here, but is rather variable in quality. In good seasons, if packed away in boxes and ripened off in a warm room, it is a delicious, melting, buttery fruit. The tree grows upright, and thriftily, with reddish yellow shoots. It requires a warm exposure and a rich soil, to give fine fruit as an open standard tree.

Fruit large, roundish-obovate, often rather square in figure. Skin yellowish-green, sprinkled with many russetty dots, and some russet, which give it a brownish cheek in some specimens. Stalk rather short, stout, planted in an abruptly sunken, obtuse cavity. Calyx small, closed, but litt.e sunk among the plaited folds of the angular basin. Flesh white, fine grained, very buttery, melting, and juicy, with a sweet and rich flavour.



Bloodgood.

BLOODGOOD. Man.

Early Beurré, *of some.*

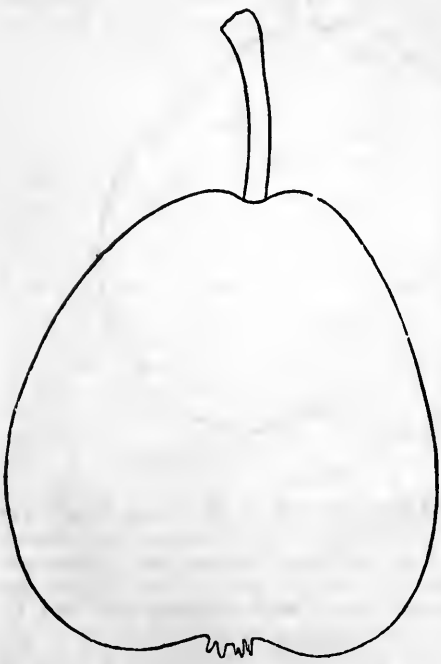
The Bloodgood is the highest flavoured of all early pears, and deserves a place even in the smallest garden. It was named from the circumstance of its having been brought into notice about 1835, by the late James Bloodgood, nurseryman, Flushing, L. I. The sort was brought to that nursery as a new variety, without a name however, by some person on Long Island, unknown to Mr. B., who was never able afterward to trace its history further. The

tree is rather short jointed, with deep reddish brown wood, grows moderately fast, and bears early and regularly. The fruit, like that of all early pears, is better if ripened in the house. It surpasses every European variety of the same season, and together with the Dearborn's Seedling, another native sort, will supplant in all our gardens the Jargonelle, and all inferiour early pears.

Fruit of medium size, turbinate, inclining to obovate, thickening very abruptly into the stalk. Skin yellow, sprinkled with russet dots, and net-work markings, giving it a russetty look on one side. Calyx strong, open, set almost without depression. Stalk obliquely inserted, without depression, short, dark brown, fleshy at its base. Flesh yellowish-white, buttery and melting, with a rich, sugary, highly aromatic flavour. The thin skin has a musky perfume. Core small. Ripe from the 25th of July to the 10th of August.

Buffam. Man.

Buffam.

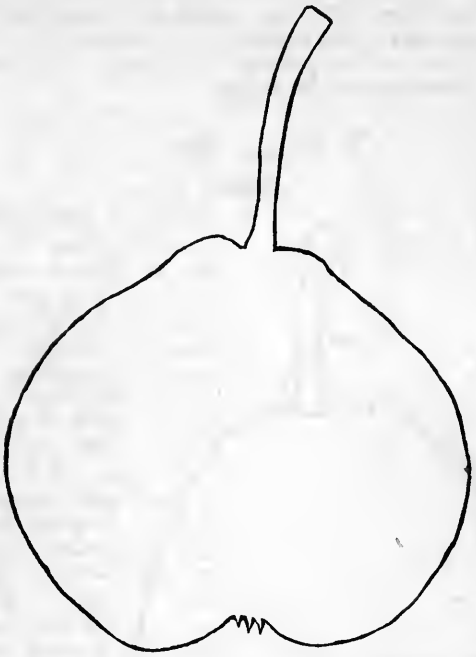


Buffam.

The Buffam is a native of Rhode Island, and from its general resemblance to the Doyenné, it is, no doubt, a seedling of that fine sort. It is an *orchard* pear of the first quality, as it is a very strong, upright grower, bears large, regular crops, and is a very handsome and saleable fruit. It is a little variable in quality. We have frequently eaten them so fine, as scarcely to be distinguished from the Doyenné, and again, when rather insipid. It may be considered a beautiful and good, though not first rate variety.

Fruit of medium size, oblong obovate, a little smaller on one side. Skin fair, deep yellow, (brownish green at first,) finely suffused over half the fruit, with bright red, sprinkled with small brown dots, or a little russet. Stalk an inch long, inserted in a very slight cavity. Calyx with small segments, and basin of moderate size. Flesh white, buttery, not so juicy as the Doyenné, but sweet, and of excellent flavour. The strong upright reddish-brown shoots, and peculiar brownish-green appearance of the pear, before ripening, distinguish this fruit. September.

CHURCH.



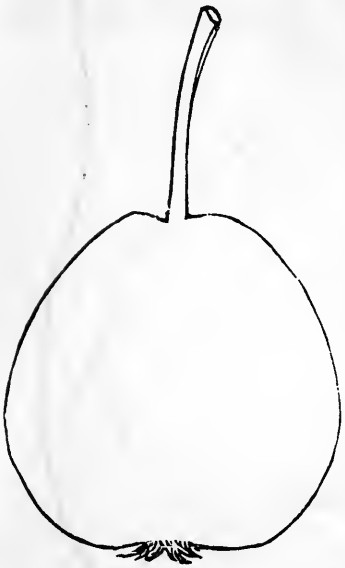
Church.

This and also the Parsonage, both of which are undoubtedly fruits of the highest excellence, were brought to our notice by S. P. Carpenter, of New Rochelle, who has made diligent inquiry as to their origin, of very aged people of the vicinity, who are conversant with their history, and uniformly state that the trees originated on land belonging to Trinity Church of that village, where the trees now stand. The former is a tree of two feet in diameter, forty feet high; the latter, which stands

near the parsonage, is also a healthy tree of about the same age, and uniformly a great bearer, yielding from fifteen to twenty bushels annually. The habit of the Church pear is somewhat spreading in its growth, uniformly productive, and the fruit unvarying in its quality; young wood deep yellow, or fawn.

Fruit rather below medium size, oblate, inclining to turbinate, generally very much depressed, somewhat angular. Stalk rather long, stout, at its insertion in a small cavity surrounded by russet. Calyx, small and closed in a broad, rather shallow basin. Skin green, becoming yellow at maturity. Flesh white, very buttery, juicy, melting, with an exceedingly rich, sweet, and highly perfumed flavour. Core small. Ripens slowly, and continues in use all of September.

Dearborn's Seedling. Man. Thomp.

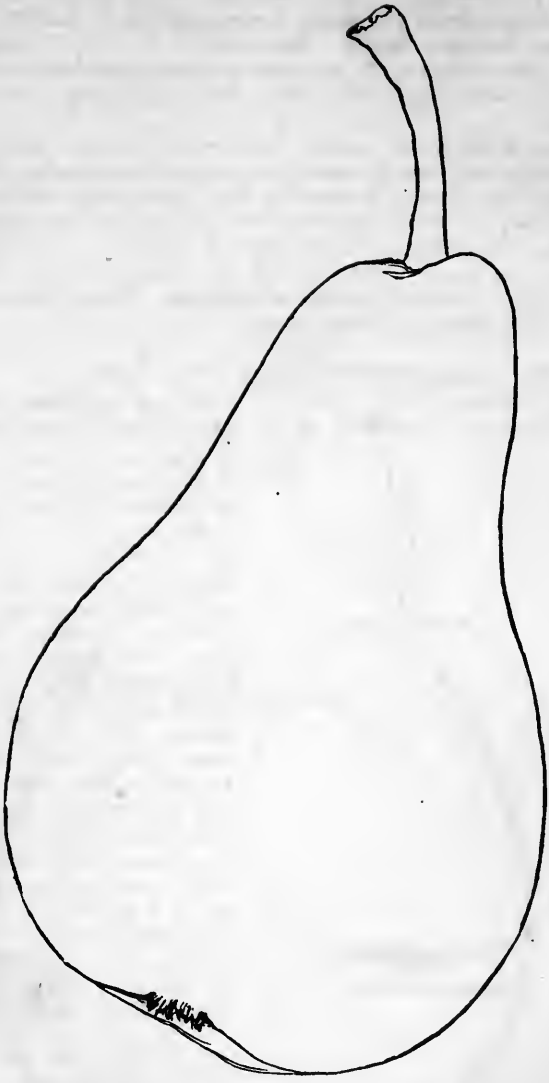


Dearborn's Seedling.

A very admirable, early pear, of first quality, raised in 1818, by the Hon. H. A. S. Dearborn, of Boston. It bears most abundant crops in every soil, and is one of the most desirable early varieties, succeeding the Bloodgood, and preceding the Bartlett. Young shoots long, dark brown. Fruit scarcely of medium size, turbinate, and very regularly formed. Skin very smooth, clear light yellow, with a few minute dots. Stalk slender, rather more than an inch long, set with very little depression. Calyx with delicate, spreading segments, set in a very shallow basin. Flesh white, very juicy and melting, sweet and sprightly in flavour. Ripens about the middle of August.

Dix. Man. Ken.

The Dix is, unquestionably, a fruit of the highest excellence, and well deserves the attention of all planters. It is one of the hardiest of pear trees, and although the tree does not come into bearing until it has attained considerable size, yet it produces



Dix.

abundantly, and from its habit, will undoubtedly prove remarkably long-lived, and free from disease. The young branches

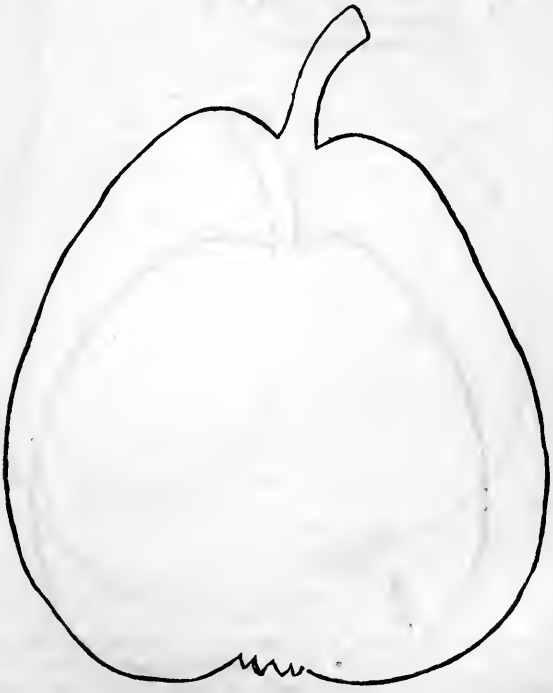
are pale yellow, upright and slender. The original tree, about thirty-five years old, stands in the garden of Madam Dix, Boston. It bore for the first time in 1826.

Fruit large, oblong, or long pyriform. Skin roughish, fine deep yellow at maturity, marked with distinct russet dots, and sprinkled with russet around the stalk. Calyx small, for so large a fruit, basin narrow, and scarcely at all sunk. Stalk rather stout, short, thicker at each end, set rather obliquely, but with little or no depression. Flesh not very fine grained, but juicy, rich, sugary, melting, and delicious, with a slight perfume. October and November.

Doyenne Boussack.

Doyenne Boussouck nouvelle. Beurre de Mesode.
Double Philippe.

Tree vigorous, an early and productive bearer. Fruit varying in form, obovate, inclining to conic, large specimens oblate. Skin rough, deep yellow, netted and clouded with russet, with a



Doyenné Boussack.

warm cheek. Stalk rather short and stout, inserted in a round cavity. Calyx open, basin shallow. Flesh buttery, juicy, melting, sweet, aromatic, and excellent. September and October.

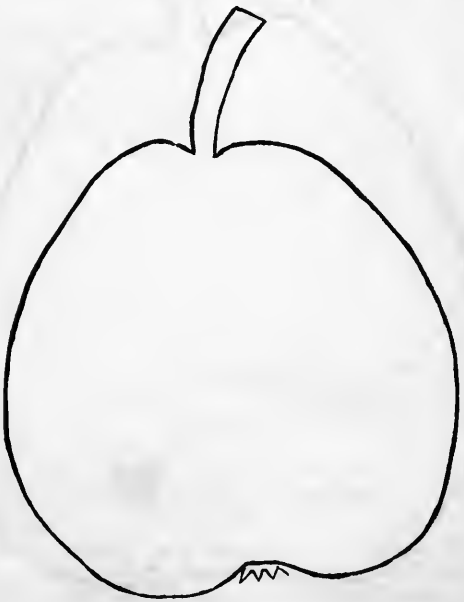
Doyenné d'ete. Nois. Bon. Jard.

Summer Doyenné. Doyenné de Juillet.
Duchess de Berry d'ete of Bivort.

Tree very vigorous, upright, an early and profuse bearer. Fruit small, roundish, obovate, slightly turbinate. Skin smooth, fine, yellow, often shaded with bright red, and covered with numerous grey or russet dots. Stalk rather short and thick, fleshy at its junction, with the fruit, almost without depression. Calyx small, and open in a very shallow, slightly corrugated basin. Flesh white, melting, juicy, with a sweet pleasant flavour. A very good early pear, ripening about the same time, or a little later than Madeline. Last of July.

Doyenne d'Hiver Nouveau. Bivort.

Doyenne d'Hiver d'Alencon. Prevoost.
Doyenne Gris d'Hiver Nouveau.
Doyenne Marbré. Cat. H. A.
Doyenne d'Alencon.
St. Michael d'Hiver.

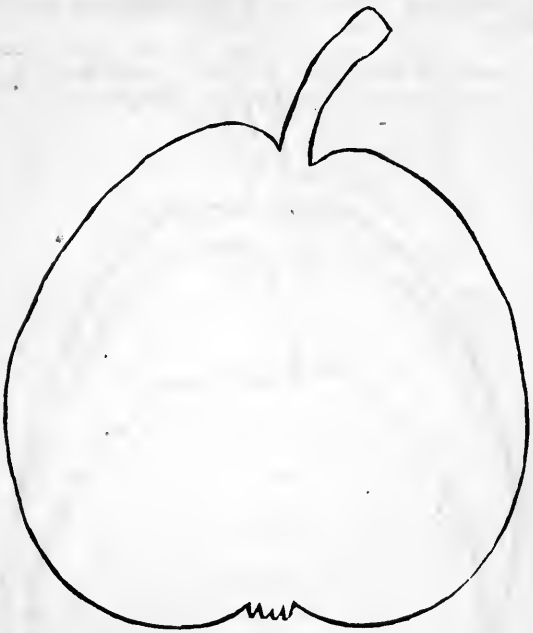


Doyenne d'Hiver d'Alencon

Tree vigorous, making a handsome pyramid, succeeds on quince. Fruit medium, roundish-oval, inclining to obovate or pyriform. Skin rough, yellow, shaded with dull crimson, or carmine, thickly sprinkled with russet or brown dots. Stalk of moderate length, pretty large, inserted in a medium cavity. Calyx open, segments persistent, basin deep, round, upright. Flesh somewhat granular, buttery, juicy, sugary, very rich, sprightly, and highly perfumed. December to April.

Doyenne Sieulle.

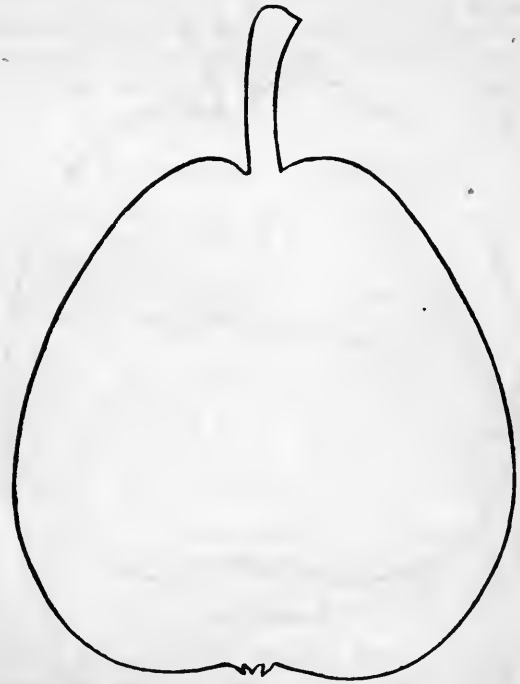
Sieulle. Beurre Sieulle.
Bergamotte Sieulle.



Doyenne Sieulle.

Raised by M. Sieulle, gardener. Tree vigorous and productive. Fruit medium, conic, truncate, angular. Skin greenish-yellow, thickly sprinkled with green or brown dots. Stalk long, curved, stout, inserted in a broad cavity by a ring or lip. Calyx open in a small shallow basin. Flesh white, coarse, very buttery, juicy, with a rich vinous, slightly aromatic flavour. October, November.

DOYENNÉ, WHITE.		Thomp. Lind. P. Mag.	
Virgalieu, *of New York.*		Doyenné blanc.	*of the French.*
St. Michael, *of Boston.*		Beurré blanc.	
Butter pear, *of Philadelphia.*		Poire de Simon.	
Virgaloo. *of some American gardens.*		Poire neige.	
Bergoloo. *of some American gardens.*		Poire de Seigneur.	
Yellow Butter. *Coxe.*		Poire Monsieur.	
White Beurré.	*of the English.*	Valencia.	
White Autumn Beurré.		Citron de Septembre.	
Dean's.		Bonne-ente.	
Warwick Bergamot.		A courte queue.	
Snow Pear.		Kaiserbirne.	*of the Dutch.*
Pine Pear.		Kaiser d'Automne.	
St. Michel.		Weisse Herbst Butterbirne.	
Reigner.		Dechantsbirne.	
Doyenné. *Duh. Mill.*		Nouvelle d'Ouef.	



Doyenné White.

The White Doyenné is, unquestionably, one of the most perfect of autumn pears. Its universal popularity is attested by the great number of names by which it is known in various parts of the world. As the Virgalieu in New York, Butter Pear in Phila-

delphia and St. Michel's inBoston, it is most commonly known, but all these names, so likely to create confusion, should be laid aside for the true one, White Doyenné.* It is an old French variety. The branches are strong, upright, yellowish-gray or light brown.

Fruit of medium or large size, regularly formed, obovate. It varies considerably in different soils, and is often shorter or longer on the same tree. Skin smooth, clear, pale yellow, regularly sprinkled with small dots, and often with a fine red cheek. Stalk brown, from three-fourths to an inch and a fourth long, a little curved, and planted in a small, round cavity. Calyx always very small, closed, set in a shallow basin, smooth or delicately plaited. Flesh white, fine-grained, very buttery, melting, rich, high-flavoured, and delicious. September, and, if picked early from the tree, will often ripen gradually till December.

The Doyenne Panache, or *Striped Dean*, is a variety rather more narrowing to the stalk, the skin prettily striped with yellow, green, and red, and dotted with brown. Flesh juicy, melting, but not high flavoured. October.

Doyenne, Gray. Thomp. Lind. P. Mag.

Gray Butter Pear.
Gray Deans.
Gray Doyenné.
Red Doyenné.
St. Michel Doré.
Doyenné Galeux.
Doyenné Boussouck, (*of some.*)
Doyenné Gris. *Duh.*
Doyenné Rouge.
Doyenné Roux. *Nois Poit.*
Doyenné d'Automne.
Red Beurré. } *incorrectly*
Beurre Rouge. } *of some.*

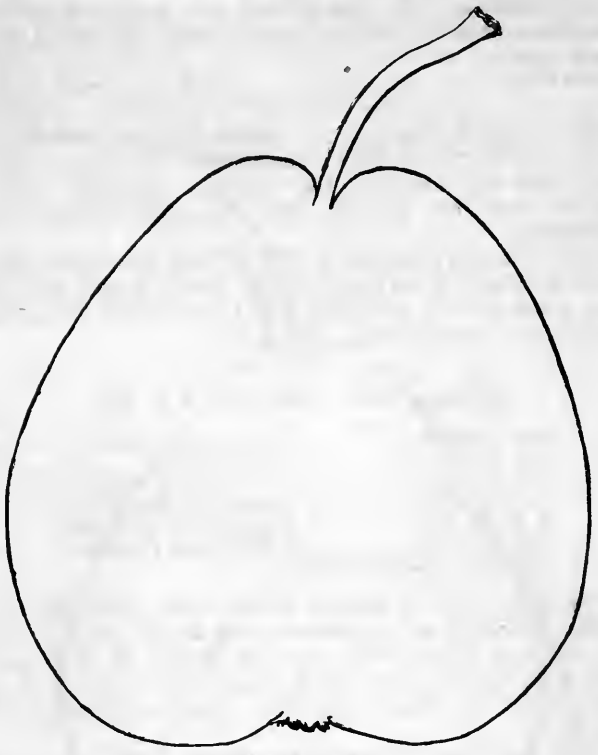
The Gray Doyenné strongly resembles the White Doyenné in flavour and general appearance, except that its skin is covered all over with a fine, lively cinnamon russet. It is a beautiful pear, usually keeps a little longer, and is considered by many rather the finer of the two. Shoots upright, grayish-brown.

Fruit of medium size, obovate, but usually a little rounder than the White Doyenné. Skin wholly covered with smooth cinnamon russet, (rarely a little ruddy next the sun.) Stalk half, to three-fourths of an inch long, curved, set in a narrow, rather deep and abrupt cavity. Calyx small, closed, and placed in a smooth, shallow basin. Flesh white, fine grained, very buttery, melting, rich, and delicious. Middle of October, and will keep many weeks.

* Virgalieu seems an American name, and is always liable to be confounded with the Virgouleuse, a very different fruit. The Doyenné, (pronounced *dwoy-annay,*) literally *deanship,* is probably an allusion to the Dean, by whom it was first brought into notice.

Flemish Beauty. Lind. Thomp.

Belle de Flanders.
Bosch Nouvelle.
Bosch.
Bosc Sire.
Poire Davy.
Impératrice de France.
Fondant Du Bois.
Boschpeer.
Beurre Spence, (erroneously.)



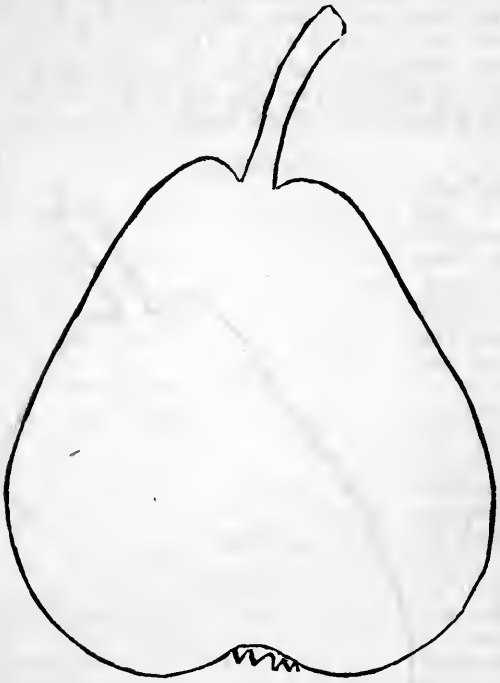
Flemish Beauty.

In good soils and open situations, the Flemish Beauty is certainly one of the most superb pears in this climate. We have seen specimens, grown on the banks of the Hudson, the past summer, which measured twelve inches in circumference, and were of the finest quality. The tree is very luxuriant, and bears early and abundantly; the young shoots upright, dark brown. It should be remarked, however, that the fruit requires to be gathered sooner than most pears, even before it parts readily from the tree. If it is then ripened in the house, it is always fine, while, if allowed to mature on the tree, it usually becomes soft, flavourless, and decays soon.

Fruit large, obovate. Skin a little rough, the ground pale yellow, but mostly covered with marblings and patches of light russet, becoming reddish brown at maturity, on the sunny side. Stalk rather short, from an inch to an inch and a half long, and pretty deeply planted in a peculiarly narrow, round cavity. Calyx short, open, placed in a small, round basin. Flesh yellowish-white, not very fine grained, but juicy, melting, very saccharine and rich, with a slightly musky flavour. Last of September.

Fondante d'Automne. Thomp.

Belle Lucrative.
Fondante d'Automne.
Seigneur d'Esperin, *originally.*
Bergamotte Fiévée.



Fondante d'Automne.

If we were asked which are the two *highest flavoured* pears known in this country, we should not hesitate to name the Seckel, and the Fondante d'Automne, (*Autumn melting.*) It is a new Flemish pear, and no garden should be destitute of it. The tree is of moderate growth, the young shoots long, yellowish-gray.

Fruit medium size, obovate, narrow, but blunt at the stalk.

Skin pale yellowish-green, slightly russeted. Stalk little more than an inch long, stout, often fleshy, obliquely inserted in a slight, irregular cavity. Calyx very short, open, with few divisions, set in a basin of moderate depth. Flesh exceedingly juicy, melting, sugary, rich and delicious. Last of September.

Kirtland.

Kirtland's Seedling. Kirtland's Seckel.
Kirtland's Beurre.

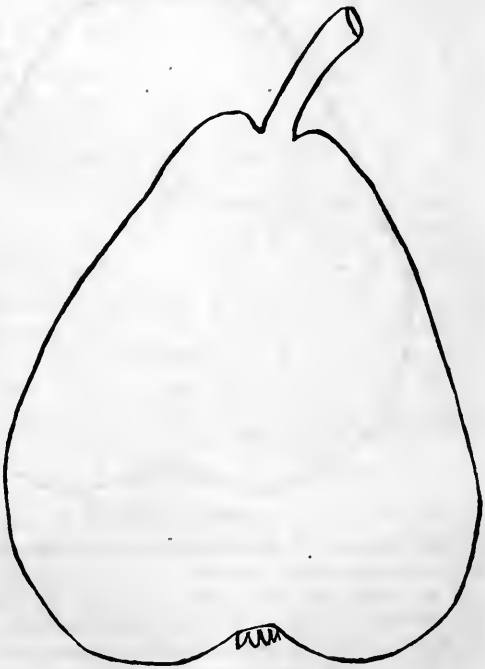
Raised by H. T. Kirtland, Poland, Ohio. Tree moderately vigorous. Young wood olive brown.

Fruit medium or below, obtusely obovate, or Bergamot shape, sometimes obscurely-pyriform. Skin fine yellow, mostly covered with bright russet, occasionally mottled and streaked with red on the sunny side. Stalk rather short and stout, inserted in a small cavity, often by a ring or lip. Calyx partially open, persistent; basin shallow and broad. Flesh melting, juicy, sweet, aromatic, and excellent, very like the Seckel but not so rich. Ripe first of September. (Prof. Kirtland in Pom. Rep.)

Lawrence.

Origin, Flushing, L. I., and first brought to notice by Wilcomb and King. Tree of moderate growth, an early and profuse bearer.

Fruit full medium size, obovate, obtuse-pyriform. Stalk rather long, inserted in an irregular cavity, generally at an inclination, and sometimes by a lip. Calyx partially closed in a broad shallow basin, surrounded by prominences. Skin fine lemon yellow, uneven, very thickly



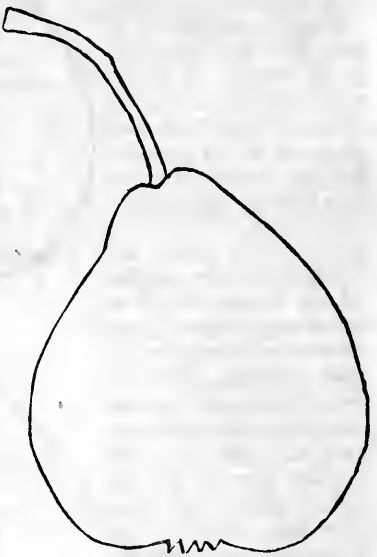
Lawrence.

covered with minute brown dots. Flesh whitish, slightly granular, somewhat buttery, with a very rich aromatic flavour. November to January. This is unsurpassed among our early winter pears.

MADELEINE, OR CITRON DES CARMES. Lind. P. Mag. Thomp.

Madeleine. *Nois.*
Citron des Carmes. *O. Duh.*
Green Chisel.
Early Chaumontelle.
Magdelen.
} *incorrectly, of some American gardens.*

The Madeleine is one of the most refreshing and excellent of the early pears; indeed, as yet, much the best at the time of its ripening—before the Bloodgood. It takes its name from its being in perfection, in France, at the feast of St. Madeleine. Citron des Carmes comes from its being first cultivated by the Carmelite monks. It is much the finest early French variety, and deserves a place in all collections. The tree is fruitful and vigorous, with long erect olive-coloured branches.



Madeleine, or Citron des Carmes.

Fruit of medium size, obovate, but tapering gradually to the stalk. Stalk long and slender, often nearly two inches, set on the side of a small swelling. Skin smooth, pale yellowish-green, (very rarely, with a little brownish blush and russet specks around the stalk.) Calyx small, in a very shallow, furrowed basin. Flesh white, juicy, melting, with a sweet and delicate flavour, slightly perfumed. Middle and last of July.

OTT.

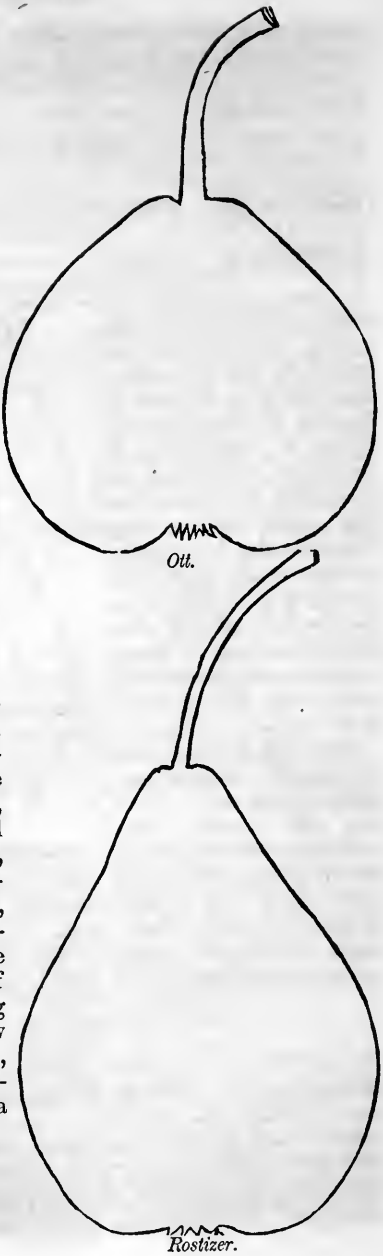
A seedling of the Seckel; originated with Samuel Ott, Montgomery Co., Pa. Tree moderately vigorous, with short and stout yellowish-olive branches.

Fruit small, roundish, turbinate. Skin greenish-yellow, partially netted with russet, reddish on the sunny side. Stalk long and curved, inserted in a slight depression. Calyx in a round, open basin. Flesh melting, sugary, rich, perfumed and aroma-

tic. Ripe middle of August. An excellent little pear, not quite equal to the Seckel, but valuable for its earliness.

Rostizer.

A foreign variety which is scarcely medium in size and has not generally much beauty of colour, yet combines an assemblage of excellences that places it in the rank before any other of its season. It is healthy and vigorous in its habit, an early and most profuse bearer, and in flavour is only equalled by the Seckel, which ripens six weeks later. Form obovate-pyriform, sometimes turbinate. Skin dull yellow green, mixed with reddish-brown on the sunny side. Stalk long and slender, curved, and inserted with very little depression. Calyx open, persistent; basin small, and corrugated. Flesh juicy, melting, somewhat buttery, exceedingly sugary, vinous, aromatic and pleasantly perfumed. Middle of August to middle of September. The young trees produce but few shoots of strong growth, and require severe shortening to bring them into a fine symmetric form.

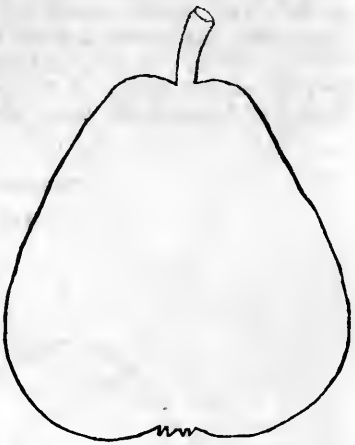


Ott.

Rostizer.

Seckel. Coxe. Lind. Thomp.

Seckle. Syckle.
Sickel. Red Cheeked Seckel.
New-York Red Cheek.



Seckel.

We do not hesitate to pronounce this American pear the richest and most exquisitely flavoured variety known. In its highly concentrated, spicy, and honied flavour, it is not surpassed, nor indeed equalled, by any European variety. When we add to this, that the tree is the healthiest and hardiest of all pear trees, forming a fine, compact, symmetrical head, and bearing regular and abundant crops in clusters at the ends of the branches, it is easy to see that we consider no garden complete without it. Indeed we think it indispensable in the smallest garden. The stout, short-jointed olive-coloured wood, distinguishes this variety, as well as the peculiar reddish-brown colour of the fruit. The soil should receive a top-dressing of manure frequently, when the size of the pear is an object. The Seckel pear originated on the farm of Mr. Seckel, about four miles from Philadelphia.*

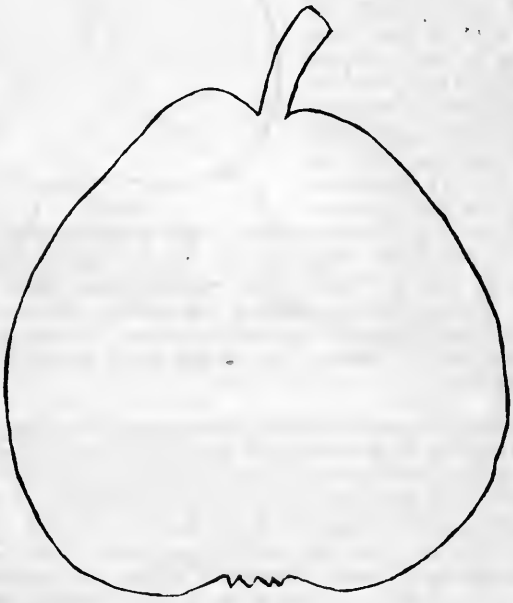
* The precise origin of the Seckel pear is unknown. The first pomologists of Europe have pronounced that it is entirely distinct from any European variety, and its affinity to the Rousselet, a well known German pear, leads to the supposition that the seeds of the latter pear having been brought here by some of the Germans settling near Philadelphia, by chance produced this superior seedling. However this may be, the following *morceau* of its history may be relied on as authentic, it having been related by the late venerable Bishop White, whose tenacity of memory is well known. About 80 years ago, when the Bishop was a lad, there was a well known sportsman and cattle dealer in Philadelphia, who was familiarly known as "Dutch Jacob." Every season, early in the autumn, on returning from his shooting excursions, Dutch Jacob regaled his neighbours with pears of an unusually delicious flavour, the secret of whose place of growth, however, he would never satisfy their curiosity by divulging. At length, the Holland Land Company, owning a considerable tract south of the city, disposed of it in parcels, and Dutch Jacob then secured the ground on which his favourite pear tree stood, a fine strip of land near the Delaware. Not long afterwards, it became the farm of Mr. Seckel, who introduced this remarkable fruit to public notice, and it re-

It was sent to Europe by the late Dr. Hossack, in 1819, and the fruit was pronounced by the London Horticultural Society exceeding in flavour the richest of their autumn pears.

Fruit small, (except in rich soils,) regularly formed, obovate. Skin brownish-green at first, becoming dull yellowish-brown, with a lively russet red cheek. Stalk half to three-fourths of an inch long, slightly curved, and set in a trifling depression. Calyx small, and placed in a basin scarcely at all sunk. Flesh whitish, buttery, very juicy and melting, with a peculiarly rich, spicy flavour and aroma. It ripens gradually in the house from the end of August to the last of October.

Shelden.

Wayne.



Shelden.

Tree vigorous, erect, hardy, and a good bearer, shoots yellow-

ceived his name. Afterwards the property was added to the vast estate of the late Stephen Girard. The original tree still exists, (or did a few years ago,) vigorous and fruitful. Specimens of its pears were, quite lately, exhibited at the annual shows of the Pennsylvania Horticultural Society.

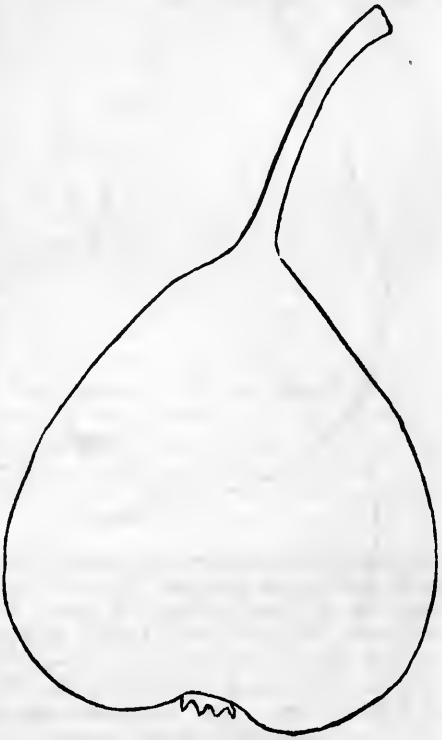
ish. An accidental seedling on the farm of Mr. Shelden, in the town of Penfield, Wayne County, N. Y.

Fruit medium or above, roundish, truncate, conic, sometimes oval, or Bergamot shape. Skin yellow, or greenish-russet, with a richly shaded cheek. Stalk short, inserted in an uneven cavity. Calyx small, set in a round narrow basin. Flesh a little coarse, melting, juicy, with a very brisk, vinous, highly perfumed flavour. Ripens in October.

Tyson.

A native seedling, found in a hedge on the farm of Jonathan Tyson, of Jenkintown, near Philadelphia. Tree an upright vigorous grower, but a tardy bearer, very productive, young wood dark brown.

Fruit medium, considerably ranging in shape from conic, to pyramidal, and pyriform. Skin clear, deep yellow at full maturity, slightly russeted, with a fine crimson cheek. Stalk long and curved, generally inserted by a fleshy ring or lip. Calyx open, basin shallow. Flesh rather fine, juicy, melting, very sugary, and somewhat aromatic. Ripens last of August and first of September.

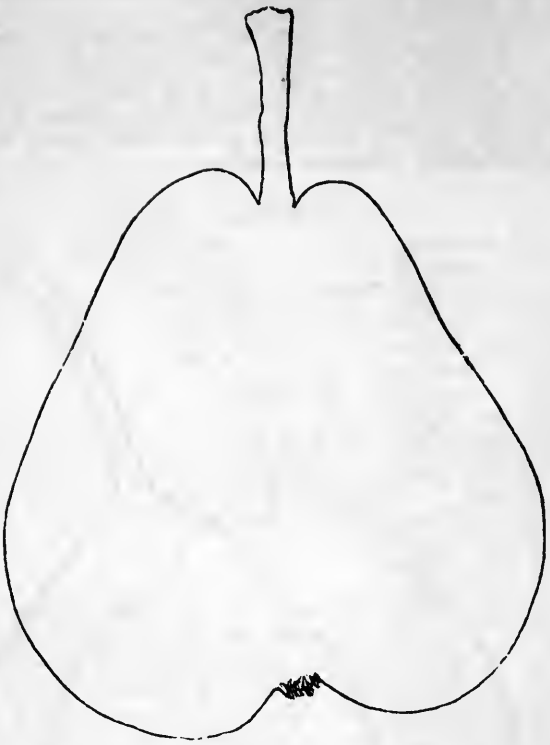


Tyson.

Urbaniste. Thomp. Lind.

Count Coloma. Beurré Picquery.
St. Marc?

The Urbaniste is a fruit for which we confidently predict the highest popularity in this country. In its delicious flavour it



Urbaniste.

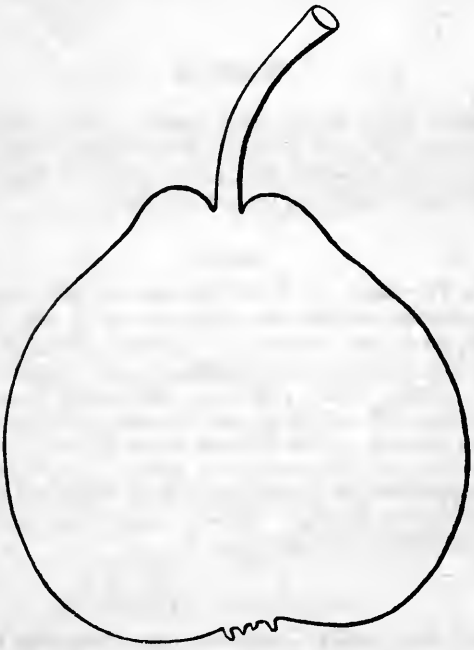
compares, perhaps, more nearly with the favourite old Doyenné or Virgalieu, than any other fruit, and adds, when in perfection, a delicate perfume, peculiarly its own. Its handsome size and appearance, and remarkably healthy habit, commend it for those districts where, from neglect or bad soil, the Doyenné does not flourish. The tree is a moderately vigorous grower, and though it does not begin to bear so early as some of the new varieties, it yields abundant and regular crops, and gives every indication of a long-lived, hardy variety. For the orchard or garden in the middle states, therefore, we consider it indispensable. With so many other fine sorts, we owe this to the Flemish, it having been originated by the Count de Coloma, of Malines. It was first introduced into this country in 1823. Young shoots upright, short-jointed, greyish yellow.

Fruit of medium size, often large, pyramidal obovate. Skin smooth and fair, pale yellow, with gray dots, and a few russet

streaks. Stalk about an inch long, rather stout, and inserted in a well marked or rather broad depression. Calyx small, closed and set in a narrow basin, which is abruptly and rather deeply sunk. Flesh white, (yellowish at the core,) buttery, very melting and rich, with a copious, delicious juice, delicately perfumed. Ripens from the last of September till the end of November, if kept in the house.

Winter Nelis. Lind. Thomp.

Nélis d'Hiver.
Bonne de Malines.
Beurré de Malines.
La Bonne Malinoise.
Milanaise Cuvelier.
Etourneau.



Winter Nelis.

The Winter Nelis holds, in our estimation, nearly the same rank among winter pears, that the Seckel does among the autumnal varieties. It is a very hardy and thrifty tree, and bears regular crops of pears which always ripen well, and in succession. Branches diverging, rather slender, light olive.

It is a Flemish pear, and was originated by M. Nelis, of Mechlin.

Fruit of medium size, or usually a little below it, roundish-obovate, narrowed-in near the stalk. Skin yellowish-green at maturity, dotted with grey russet, and a good deal covered with russet patches and streaks, especially on the sunny side. Stalk an inch and a half long, bent, and planted in a narrow cavity. Calyx open, with stiff, short divisions, placed in a shallow basin. Flesh yellowish-white, fine grained, buttery and very melting, abounding with juice, of a rich, saccharine, aromatic flavour. In perfection in December, and keeps till the middle of January.

CLASS II.

Comprises those of very good quality; those that are new and untested, but give promise of excellence; and some of which may not, on further trial, prove worthy of this class, but which we are not ready at present to reject.

Abbott.

Origin, Providence, R. I., on the farm of Mrs. Abbott. A vigorous grower, and the fruit, although not of first quality, is uniformly good, and exceedingly beautiful. Fruit of medium size, obovate, inclining to pyriform, with the largest diameter near the centre. Skin yellowish, considerably shaded with crimson, sprinkled with grey and crimson dots, and having a few russet patches. Stalk medium, inserted by a lip or ring, in a slight depression surrounded by russet. Calyx open, with segments persistent, in a broad open basin. Flesh white, granular, buttery, juicy, melting. Flavour sweet, pleasant, and perfumed. Ripens last of September.

Abbé Mongein. Tourrès.

Fruit of first quality, immensely large, weighing forty-two ounces, recommended by M. Tourres as a delicious fruit. Ripe March and April. (Hor. Mag.)

Abbé Edouard. Bivort.

Tree a beautiful pyramid, very vigorous on pear and quince. Fruit medium, turbinate. Skin bright green, becoming bright yellow at maturity. Flesh white, half fine, melting, half buttery, juice abundant, sugary, and agreeably perfumed, resembles

the Jaminet. Ripens in November. (Al. Pom.) Fine in Belgium; not tested here.

Adams.

Raised by Dr. H. Adams, of Waltham, Mass. Tree a vigorous grower, with an upright, erect habit, making a pyramidal head; young wood dark brown. Fruit large, pyriform. Skin fair, smooth, deep yellow, shaded with red on the sunny side, dotted with russet specks. Stalk short and stout, wrinkled at its base, and obliquely inserted without much cavity, eye small, closed, and about even with the crown. Flesh white, fine, melting, and very juicy. Flavour rich, brisk, vinous, perfumed and excellent. Ripens September, and keeps into the middle of October. (Hor. Mag.)

Adèlaide de Rèves. Van Mons.

Tree vigorous, and very fertile on pear or quince. Fruit large enough, roundish, Bergamotte or turbinate. Skin bright green, becoming lemon yellow at the time of ripening. Flesh white, half fine, melting, juice very abundant, sugary, vinous, well perfumed, of first quality. Ripe last half of October. (An. Pom.)

Alexander.

Origin, town of Alexander, N. Y. Tree moderate growth. Fruit medium, irregularly obovate, approaching oblong, somewhat one-sided. Skin yellowish-green, dotted, striped, and splashed with russet, and slightly tinged in the sun. Stalk slender, rather long, curved, fleshy at its insertion in a moderate cavity by a lip. Calyx small, partially closed. Flesh white, a little coarse and gritty, very juicy, melting, sugary and rich. Ripe last of September. (J. B. Eaton, MS.)

Alexandre Lambrè. Bivort.

Tree very vigorous, and exceedingly productive. Fruit small or medium, in the form of a Bergamot, but generally more turbinate. Skin smooth, bright green, strongly dotted and striped with russet fawn, and much shaded with the same over its whole surface. Flesh white, fine, melting, half buttery, juice abundant, sweet, and well perfumed. Commences to ripen in November, but prolonged until in January. (Al. Pom.)

Alpha. Thomp.

A Belgian seedling, received from Dr. Van Mons. It is a pleasant pear.

Fruit medium size, obovate, a little inclining to oblong. Skin smooth, pale yellowish-green, dotted with reddish points, and having a thin, pale brown blush. Stalk about an inch long, inserted in a slight depression. Calyx stiff, open, set in a round basin of moderate size. Flesh white, fine grained, buttery, and good. Middle of October.

Amiré Joannet. Thomp.

Early sugar, *Pom. Man.* St. Jean.
Sugar Pear. Joannette.
Harvest Pear. St. John's Pear.
Archduc d'ete?

This fruit, better known here as the *Early Sugar* pear, is one of the very earliest, ripening at the beginning of July—in France, whence it originally comes, about St. John's day—whence the name, Joannet. It is a pleasant fruit, of second quality, and lasts but a few days in perfection. It opens the pear season, with the little Muscat, to which it is superiour. Fruit below the middle size, regularly pyriform, tapering to the stalk, which is an inch and a half long, and thickest at the point of junction. Skin very smooth, at first light green, but becomes bright lemon colour at maturity—very rarely with a faint blush. Calyx large, with reflexed segments, even with the surface. Flesh white, sugary, delicate and juicy at first, but soon becomes mealy; seeds very pointed. Head of the tree open, with a few declining branches.

Ananas de Courtrai.

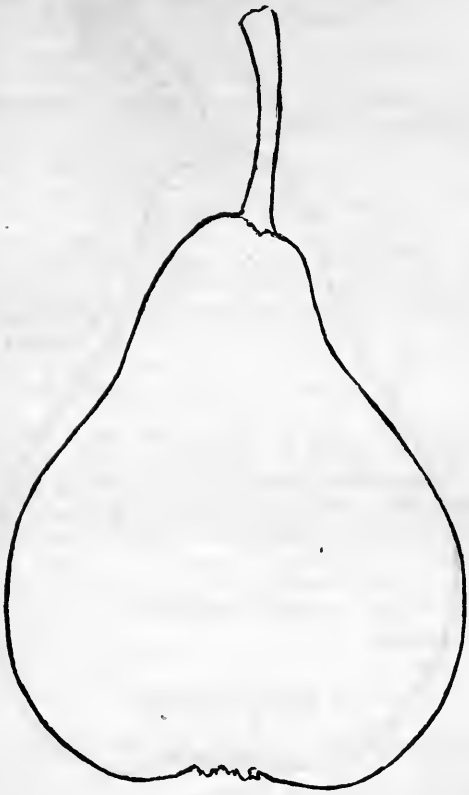
Tree very vigorous and productive, takes readily any form; turbinate, pyriform. Skin citron-yellow at maturity, beautifully coloured on the sunny side. Flesh white, firm, buttery, melting, sweet and juicy, pleasantly perfumed, but not musky. Ripens at the end of August. (An. Pom.)

Ananas D'Eté. Thomp.

Ananas, (*of Manning.*)

This fruit was first received from the London Horticultural Society, by Mr. Manning. It is a very excellent pear, with a rich and somewhat peculiar flavour, but should rather be called an *autumn* pine-apple, than a summer one.

Fruit rather large, pyriform, or occasionally obtuse at the stalk. Skin rough and coarse, dark yellowish-green, with a little brown on one side, and much covered with large rough, brown russet dots. Stalk an inch and a quarter long, inserted sometimes in a blunt cavity, sometimes without depression, by the side of a lip. Calyx open, with short divisions, basin shal-



Ananas d'Ete.

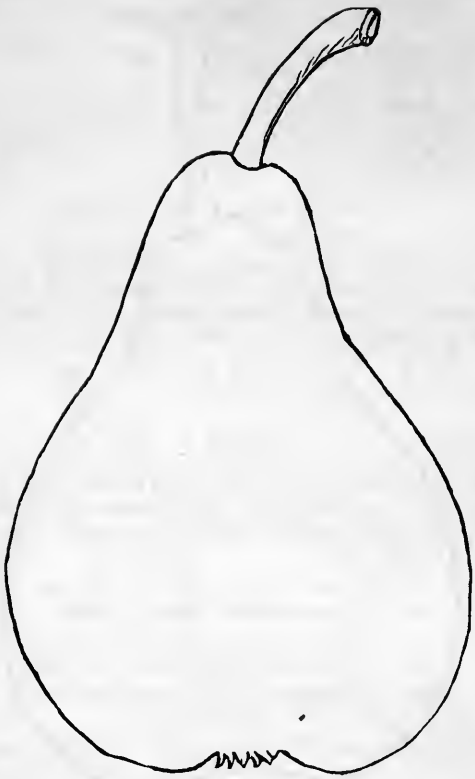
low. Flesh fine grained, buttery and melting, with a sweet, perfumed, and high flavour. September and October. Variable, sometimes poor.

Andrews. Man. Ken.

Amory. Gibson.

The Andrews is a favourite native seedling, found in the neighbourhood of Dorchester, and first introduced to notice by a gentleman of Boston, whose name it bears. It has, for the last 15 years, been one of the most popular fruits. It is of most excellent flavour, but variable and subject to rot at the core.

Fruit rather large, pyriform, one-sided. Skin smooth, and rather thick, pale yellowish-green, with a dull red cheek. and a



Andrews.

few scattered dots. Stalk about an inch and a quarter long, curved, set in a very shallow, blunt depression, or often without depression. Calyx open, placed in a small basin. Flesh greenish-white, full of juice, melting, with a fine vinous flavour. Early in September. Shoots diverging, light olive.

Arbre Courbè. Al. Pom. Thomp.

Amiral. Colmar Charnay.

Tree vigorous, with crooked branches.

Fruit medium or large, oval, pyriform. Skin greenish, with russet dots. Stalk large and fleshy. Calyx open, basin broad and shallow. Flesh whitish, coarse, half buttery, melting, juicy, slightly astringent. Ripe last of September.

Auguste Royer. Durieux.

Tree very vigorous and productive, and promises to be a valuable orchard fruit.

Fruit medium, turbinate. Skin russet-fawn, becoming orange. Flesh whitish-yellow, melting, juice abundant, sugary, and pleasantly perfumed. Ripe, November. (An. Pom.)

Autumn Colmar. Thomp. Lind.

A French pear, of fair quality, and a good bearer.

Fruit of medium size, oblong or obtuse-pyriform, a little uneven. Skin pale green, dotted with numerous russety specks. Stalk about an inch long, straight, planted in a small, uneven cavity. Calyx small, closed, set in a slight basin, a little furrowed. Flesh a little gritty at the core, buttery, with a rich and agreeable flavour. October.

Barry.

Raised by André Leroy and dedicated to Mr. Barry.

Fruit medium, pyriform, irregularly shaped. Skin rough, red, spotted on the sunny side, yellowish on the other. Stalk short, obliquely inserted. Calyx small, basin narrow. Flesh white, coarse, tender at the centre, very juicy, sugary, and perfumed. A first rate pear. Ripe October. (Leroy's Cat.)

Belle Epine Dumas.

Duc de Bourdeaux. Epine du Rochoir.
Epine de Limoges.

Tree vigorous, pyramidal form, good bearer, succeeds on quince.

Fruit medium, long-pyriform. Skin green, becoming greenish-yellow when ripe, with small brown dots. Stalk long, set in a very small depression. Calyx partially closed, in a shallow regular basin. Flesh white, buttery, half melting, juicy, sweet and of a peculiar flavour. November and December.

Belle Julie. Van Mons.

Tree beautiful, pyramidal, upright and vigorous, very fertile.

Fruit small, obovate. Skin light olive, lightly shaded on the sunny side. Flesh fine, melting, buttery, rather juicy, sweet, deliciously perfumed. An excellent fruit. Ripe in October and keeps till November. (Al. Pom.)

Bergen Pear.

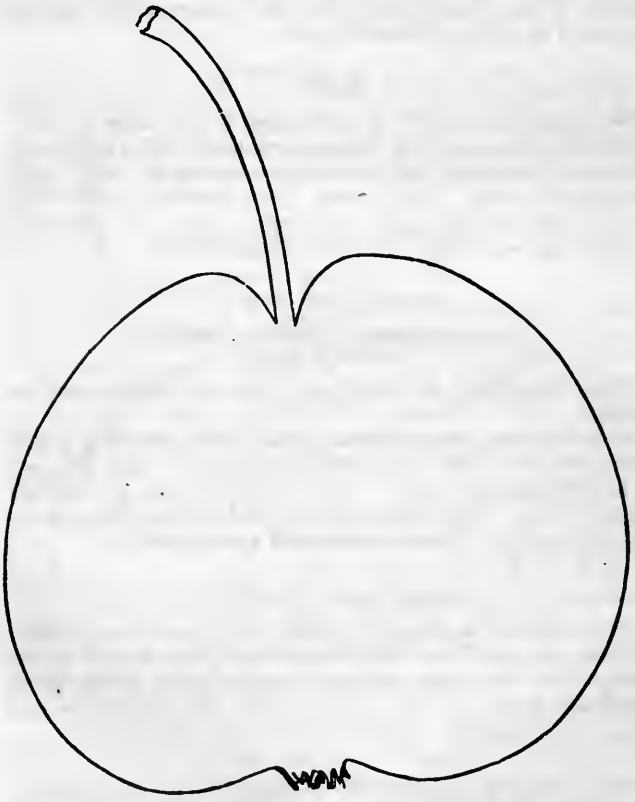
A chance seedling, found in a hedge on land formerly belong-

ing to Simon Bergen, of New Utrecht, Long Island. Tree vigorous, an early bearer, productive.

Fruit large, turbinate. Skin very thin, smooth, clear yellow, with a beautiful red cheek on the sunny side. Stalk rather long, slightly curved, inserted at an inclination, in a very small depression. Calyx small, basin very shallow. Flesh white, fine grained, buttery, juicy, melting, with a sweet excellent flavour, core small, with few seeds. Ripens last of September. (T. G. Bergen, Ms.)

Belle Fondante.

Fruit medium, pyramidal, turbinate. Skin pale yellow, clouded with green, irregularly patched with russet, especially around the eye. Flesh juicy, buttery, very fine grained and rich, with a perceptible astringency. October. (Rob. Manning, Ms.)



Belle et Bonne.

Belle et Bonne. Thomp. Lind. P. Mag.

Schöne und Gute. Gracieuse.
Belle de Brussels, (*incorrectly.*)

The Belle et Bonne (*beautiful and good,*) pear is a variety from Belgium, of large size, fine apearance, but has fallen far below expectations.

Fruit large, Bergamotte shaped. Skin pale greenish-yellow, with numerous russet green dots, especially near the eye. Stalk long, rather slender, deeply inserted in a very narrow cavity. Calyx with crumpled divisions, set in a shallow, rather uneven basin. Flesh white, a little coarse grained, tender, and when well ripened, buttery, with a very sweet and agreeable juice. Middle of September.

Benoist?

Tree vigorous, with stout upright branches.

Fruit medium, turbinate. Skin yellow, with a crimson cheek. Stalk short and thick, fleshy at its insertion. Calyx partially open, basin small, shallow. Flesh a little coarse, juicy, melting, sweet, and agreeable. Ripens middle of August.

Bergamotte d'Esperén. Esperén.

Bezy d'Esperén (erroneously).

Tree vigorous and a good bearer.

Fruit medium, exceedingly depressed, irregularly pyriform, nearly globular. Skin green, thick and rough, covered with russet dots and patches. Stalk long and stout, thickened at its insertion in a small cavity, at an inclination. Calyx small, closed, in a rather deep slightly furrowed basin, surrounded by russet. Flesh greenish-yellow, juicy, buttery, sweet and rich. December to February.

Bergamotte Heimburg.

Raised by M. Bivort. Tree vigorous and very productive. Fruit large, Bergamotte shaped. Skin rough, green, changing to lemon yellow when ripe, dotted with brown, and tinged with red next the sun. Flesh white, very fine, somewhat buttery, juice abundant, sugary, perfumed. Ripe early in October. (Gard. Chron.)

Bergamotte Gaudry.

Fruit medium, roundish. Stalk long. Colour yellowish-green, covered with coarse russet dots. Flesh white, tender,

very juicy. Flavour mild, pleasant, subacid. Ripens middle of November. (Wilder in Hort.)

Bergamotte Cadette. O. Duh. Thomp.

Beurré Beauchamps. Poire de Cadet.
Beauchamps. Ognonet, (*incorrectly, of some.*)
Bergamotte Caprand. Belle de Brissac.
Bergamotte Bufo.

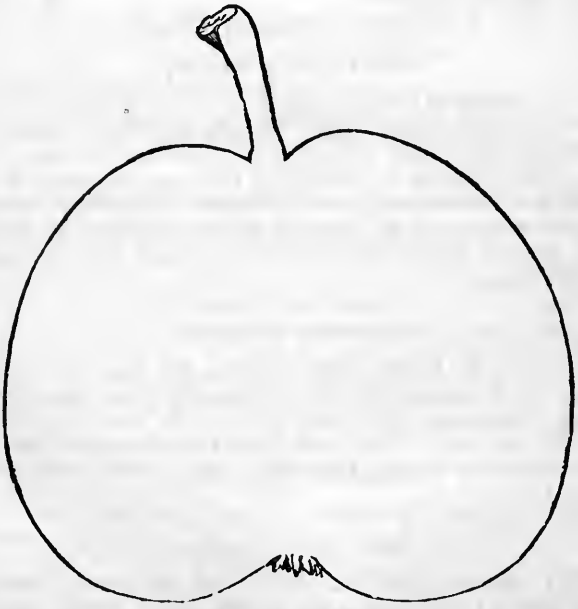
A very good Bergamot from France, not by any means equal, however, to Gansel's, but productive, and ripening for some time, in succession.

Fruit middle sized, roundish-obovate. Skin smooth, pale yellow, rarely with a pale red cheek. Stalk an inch long, thick, set in an angular, shallow cavity. Calyx small, open, basin nearly flat. Flesh buttery and juicy, sweet and rich. October and November.

Bergamotte Lesèble. Hov. Mag.

Tree vigorous, and productive.

Fruit medium, oblate, or Bergamotte shaped. Skin yellow, with a sunny cheek, numerous small dots, and russeted patches. Stalk long, curved, inserted in a depression. Calyx large, open, broad; basin irregular. Flesh juicy, buttery, melting, sweet, and perfumed. October.



Bergamotte Gansel's.

Bergamotte, Gansel's. P. Mag. Thomp. Lind.

Brocas Bergamot. *Coxe.* Bonne Rouge.
Ives's Bergamot. Gurle's Beurré.
Staunton. Diamant.

Gansel's Bergamotte is a well known and delicious pear, raised seventy-seven years ago, from a seed of the Autumn Bergamot, by the English Lieutenant-General Gansel, of Donneland Hall. Though a little coarse-grained, it is, in its perfection, scarcely surpassed by any other pear in its peculiarly rich, sugary flavour, combined with great juiciness. It is stated, by some, to be an unfruitful sort, and it is, in poor or cold soils, only a thin bearer, but we know a very large tree near us, in a warm, rich soil, which frequently bears a dozen bushels of superb fruit. The mealy leaves, and spreading dark grey shoots, distinguish this tree.

Fruit large, roundish obovate, but much flattened. Skin roughish brown, becoming yellowish brown at maturity, tinged sometimes with a russet red cheek, and sprinkled with spots of russet. Stalk short, fleshy at both ends. Cavity moderate. Calyx short and small, placed in a smooth, moderate hollow. Flesh white, melting, very juicy, rich, sweet and aromatic. Ripens during all September.

Bergamotte de Millepieds.

Fruit of medium size, roundish, resembling Belle de Brussels, Skin greenish, rather dark, dotted. Flesh white, melting, juicy, first rate. Ripens September. (Leroy's Cat.)

Beurré de Nantes. Thomp. An. Pom.

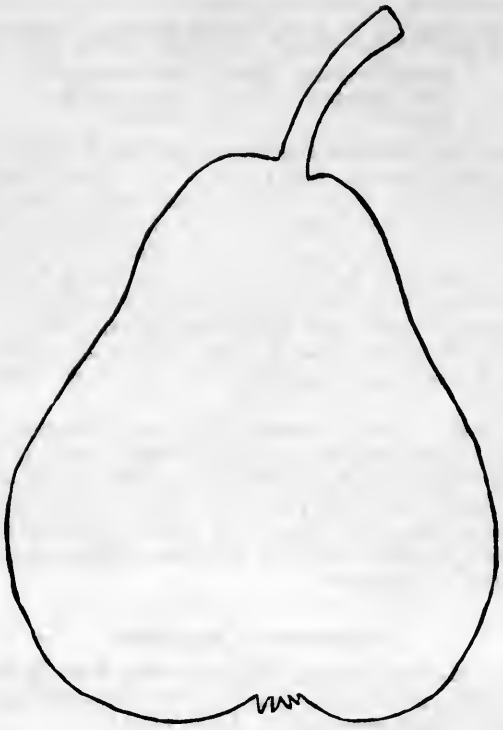
Beurré Nantais. Beurré Blanc de Nantes.

Tree vigorous, grows well on pear and quince, young wood olive, inclining to brown. Fruit large, elongated-pyriform, or pyramidal. Skin greenish-yellow, with a red cheek, and minute dots. Stalk rather long and large, inserted by a lip almost without cavity. Calyx large, open, basin broad and furrowed. Flesh juicy, sweet, melting, and pleasantly perfumed, probably of first quality. October.

Beurré Langelier.

Tree vigorous on pear and quince, very productive.

Fruit medium, turbinate, or obtuse-pyriform. Skin pale yellow, slightly shaded with crimson and blotched with russet, and covered with russet dots. Stalk short and fleshy, inserted often by a lip in a small depression. Calyx open or partially closed,



Beurré Langelier.

segments persistent, basin somewhat irregular, shallow, and open. Flesh white, buttery, juicy, melting, somewhat granular, with a very brisk, rich, vinous flavour. November to January.

Beurré Bachelier.

Tree vigorous, young wood yellowish-maroon, a good bearer. Fruit rather large, obovate, obscurely pyriform, irregular. Skin green. Stalk shortish, very much inclined in a moderate depression, by a lip. Calyx very small, partially closed, set in a shallow basin. Flesh buttery, juicy, melting, with a brisk, vinous, aromatic flavour. November and December.

Beurré Sterkmans. Al. Pom. Sterkmans.

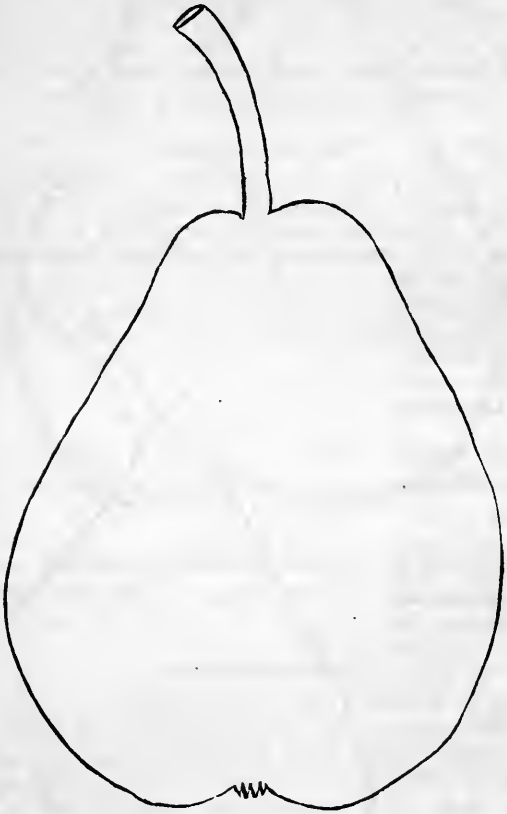
Doyenné Sterkmans, of some. Belle Alliance.

Tree vigorous, with long stout gray shoots, productive. Fruit medium, oblate, remotely pyriform. Skin green speckled

with russet, and shaded with crimson. Stalk about an inch long, stout, inserted in a small, uneven cavity. Calyx open, segments stiff, set in a broad, uneven basin, slightly russeted. Flesh yellowish-white, fine, very melting, juicy, sugary, vinous, pleasantly perfumed. October and November.

Beurré Moire. Al. Pom.

Beurre Moire.



Beurré Moire.

Tree moderately vigorous. Fruit large, obovate, pyriform. Skin greenish-yellow, profusely sprinkled with yellow dots. Stalk medium, stout, curved, inserted in an uneven depression. Calyx small, basin shallow. Flesh yellowish, a little granular, buttery, melting, with a fine rich brisk flavour, highly perfumed.

Sugar and acid both abound, but so nicely balanced that without prevalence of either, an excellent rich flavour results. For some tastes there may be an excessive perfume. October.

Beurré Kennes. Bivort. Thomp.

A seedling of Bivort's. Tree vigorous, productive, young wood brownish-red. Fruit medium, roundish-oblate, turbinate. Skin greenish-yellow, mostly covered with thin russet, shaded with crimson, and thickly sprinkled with russet and crimson dots. Stalk of medium length, thick, and inclined, fleshy at its insertion, by a large ring or lip. Calyx partially closed, set in a broad, shallow basin. Flesh whitish, buttery, juicy, melting, with a very sweet, rich, perfumed flavour. October.

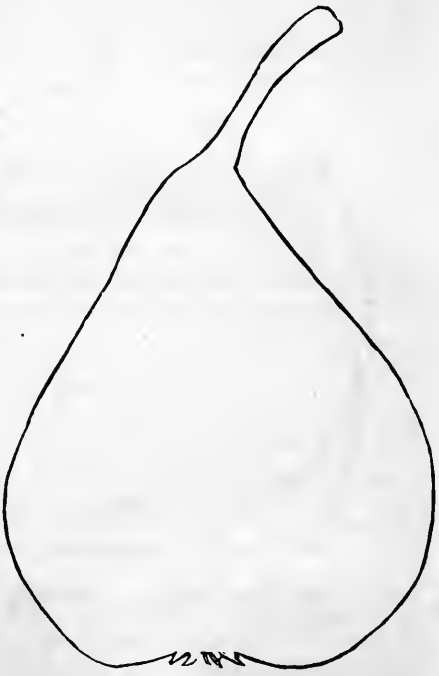
Beurré Richelieu.

Tree vigorous, young shoots light olive. Fruit large, obtuse-pyriform, truncate. Skin greenish, inclining to yellow, sprinkled with dots. Stalk short, inserted by a slight lip in a broad depression. Calyx firmly closed, set in a broad, shallow furrowed basin. Flesh buttery, juicy, melting, with a fine, sweet, aromatic flavour—sometimes astringent. December.

Beurré Navez. Bouvier. Bivort.

Colmar Navez.

Tree vigorous and productive. Fruit large, irregular, oblate, obconic, obscure pyriform. Skin rich yellow, inclining to cinnamon, with numerous gray dots. Stalk long, thick, fleshy, inserted in an inclined cavity. Calyx small, open, set in a shallow basin. Flesh white, juicy, melting, and excellent, pleasantly perfumed. October.



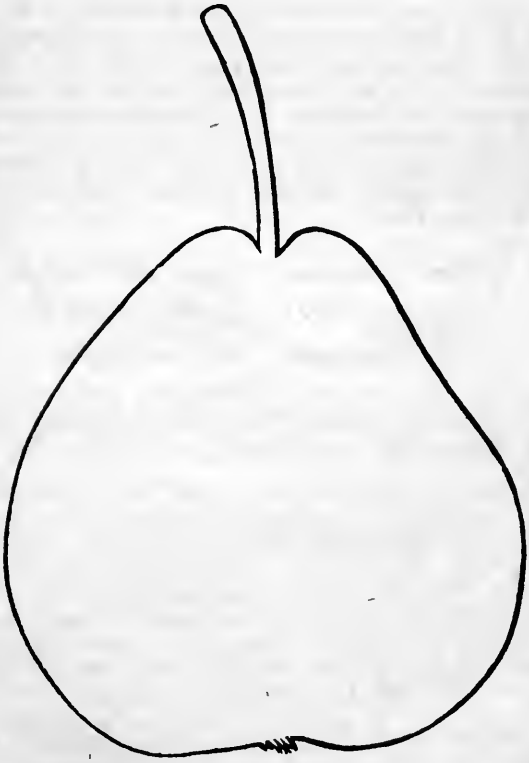
Beurré Giffard.

BEURRÉ GIFFARD. Thomp. Bouvier.

Tree of moderate growth, with slender reddish coloured shoots. Fruit rather above medium in size, pyriform or turbinate, tapering to the stem, which is rather long and obliquely set. Skin greenish-yellow, marbled with red on the sunny side. Calyx closed, segments stiff, set in a very small basin. Flesh white, melting, juicy, with an excellent vinous flavour, delightfully perfumed. An early pear of great promise. Ripening middle of August.

BEURRÉ, GOLDEN OF BILBOA. Man.

Hooper's Bilboa.



Golden Beurré of Bilboa.

The Golden Beurré of Bilboa was imported from Bilboa, Spain, about eighteen years ago, by Mr. Hooper, of Marblehead,

Mass. Its European name is unknown, and it has become a popular fruit here under this title. Shoots stout, upright, light yellowish-brown.

Fruit rather large, regular, obovate. Skin very fair, smooth, and thin, golden yellow, evenly dotted with small brown dots, and a little marked with russet, especially round the stalk. Stalk about an inch and a half long, rather slender, set in a moderate depression. Calyx small, closed, placed in a slight basin. Flesh white, very buttery and melting, and fine grained, with a rich vinous flavour. First to the middle of September.

Beurré de Wetteren. An. Pom.

This pear was discovered by Louis Berckmans, in his garden at Heyst-op-den-Berg, among a number of wild pear trees of his sowing. Tree vigorous, very thorny, suitable for a pyramid. Fruit middle size, turbinate. Stalk medium, with some small plaits around its insertion. Eye in a wide even cavity. Skin completely covered with russet, and slightly coloured next the sun. Flesh fine, yellowish-white, half melting, buttery, with an abundant sugary, agreeably perfumed, musky juice. February. (Am. Pom.)

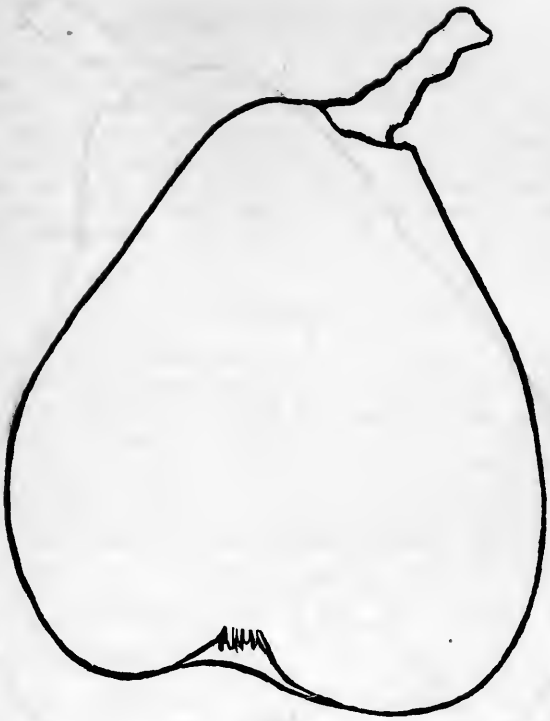
Beurré d'Aremberg. Thomp. Lind. Deschamp.

Duc d'Aremberg.	D'Aremberg Parfait.
Deschamps.	L'Orpheline.
Colmar Deschamps.	Beurré des Orphelines.

The Beurré d'Aremberg is a fine, large fruit, very high flavoured, bears most abundantly, and always keeps and matures, with perhaps less care than any other winter fruit in the house.

The Beurré d'Aremberg was raised, not long since, by the Abbé Deschamps, in the garden of the Hospice des Orphelines, at Enghein. The Beurré d'Aremberg of many French catalogues, is the Glout Morceau. The two sorts are easily distinguished. The fruit of the d'Aremberg has a short, or thicker stalk, usually bent to one side; its flavour is vinous, instead of sugary, and its wood not so strong, with more deeply serrated leaves. Branches clear yellowish-brown, dotted with pale specks. Tree unhealthy and subject to canker.

Fruit obovate, but narrowing a good deal to the stalk. Skin thick, rather uneven, pale, greenish-yellow, becoming yellow at maturity, with many tracings and spots of light russet. Stalk short, half an inch to an inch long, thick, and very fleshy, especially where it joins the fruit, and usually planted very obliquely. Calyx short and small, set in a deep basin. Flesh



Beurré d'Aremberg.

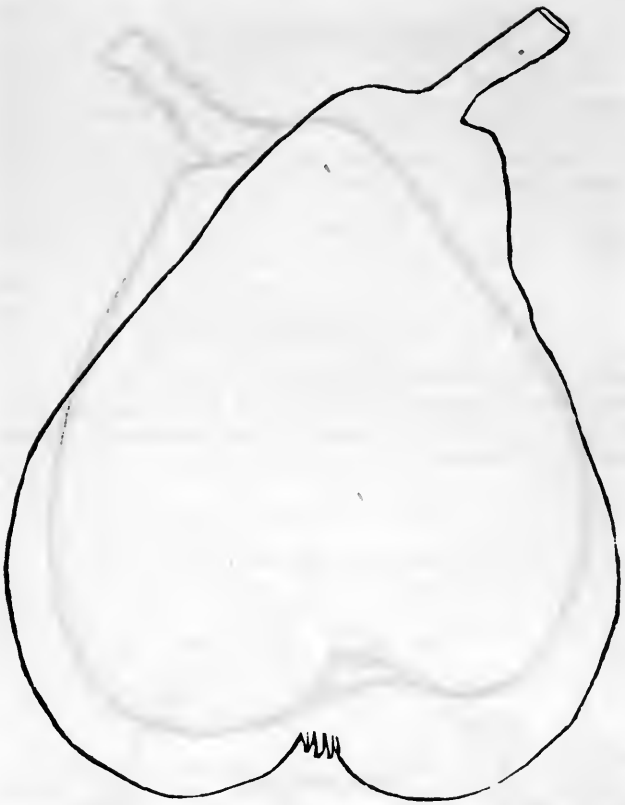
white, buttery, and melting, with an abundant, rich, delicious vinous juice. December.

Beurré Clairgean. Al. Pom. Thomp.

Raised by M. Clairgean, of Nantes. Tree very vigorous, forming a beautiful pyramid, young wood reddish-brown, very productive.

The size, early bearing, productiveness, and exceeding beauty, together with its coming at a season most acceptable, will render this one of our most valuable pears.

Fruit large, pyriform, but with unequal sides. Skin warm yellow, inclining to fawn, shaded with orange and crimson, thickly covered with russet dots, and sometimes sprinkled with russet. Stalk short, stout, and fleshy, inserted by a lip at an inclination almost without depression; when the lip is absent,



Beurré Clairgeau.

the cavity is uneven. Calyx open, segments stiff, in a shallow furrowed basin. Flesh yellowish, buttery, juicy, somewhat granular, with a sugary, perfumed, vinous flavour. October to January.

Beurré Kossuth.

Disseminated and named by Andre Leroy. Tree of moderate vigour. Fruit large, very variable in form, generally turbinate, surface very uneven. Stalk two thirds of an inch long, curved and planted upon a small projection. Calyx large, basin deep and round. Skin dull yellowish green, traced and freckled with grey or bronze, dotted with specks of the same colour, yellowish round the eye, greenish around the stem. Flesh very fine, melting, buttery, sugary, juice abundant, slightly acidulated. Ripe September, October. (Desports in Hov. Mag.)

Beurré Berckmans. Al. Pom.

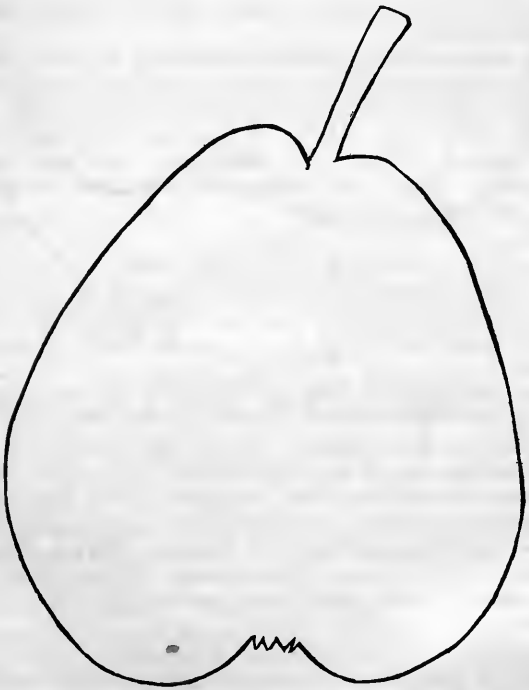
Tree very vigorous, very productive.

Fruit medium, turbinate, or short-pyriform. Skin yellowish, rough, chiefly covered with russet. Stalk of medium length, fleshy, very much inclined. Calyx small, open, in a shallow, furrowed basin. Flesh white, juicy, very buttery, melting, with a rich, highly perfumed flavour. November, December.

Beurré Superfin.

Tree vigorous, young wood brown, inclining to fawn.

Fruit medium, oblate, depressed-pyriform, inclining to turbinate. Skin yellow, slightly shaded with crimson on the sunny side, and partially covered with russet, and thickly sprinkled with minute dots. Stalk stout, rather long (descriptions say short), inserted without depression by a fleshy enlargement. Calyx closed, in an abrupt, small basin. Flesh exceedingly juicy, buttery, melting, with a brisk, vinous, or sub-acid flavour. Ripe all of October.



Beurré Hardy.

Beurré Hardy. Hardy.

Beurré, Sterkman's (*erroneously*).

Tree vigorous, productive both on pear and quince; young wood maroon.

Fruit large, obovate, pyriform. Skin greenish, covered with light russet, considerably shaded with brownish red, and sprinkled with brown dots. Stalk about an inch long, a little swollen at its insertion, at an inclination, in a small, rather uneven cavity. Calyx open, segments persistent, in a broad, shallow basin. Flesh buttery, melting, juicy, brisk, vinous, and highly perfumed, slightly astringent next the skin. September and October.

Beurré Spence. Van Mons.

Many varieties having been received from Europe for Beurré Spence and proved incorrect, we give description of one which we have received, and presume to be the true variety, originated by Van Mons.

Tree moderately vigorous, young shoots reddish brown. Very productive.

Fruit medium, short-pyriform, inclining to turbinate. Skin greenish, becoming yellow at maturity, shaded with dull crimson, thinly sprinkled with russet, and thickly covered with russet dots. Stalk long, fleshy at its insertion, which is often at an inclination by a lip. Calyx small, closed, in a deep, rather abrupt basin. Flesh juicy, melting, with a fine, rich, vinous flavour. Core small. September.

Beurré Amandé. Van Mons.

Dobbel Amandel, (*of the Dutch.*) Almond Pear.
Beurré d'Angleterre. Noisette.
Longue de Narkouts. Monkowthy.
Beurré Judes.

One of Van Mons' seedlings, and named in allusion to its almond flavour. Tree an erect, vigorous grower, and a good but not very early bearer. Shoots stout, diverging, dark olive.

Fruit medium or above, elongated-pyriform. Skin rough, dull green, covered with rather prominent russet dots. Stalk long, slender, inserted in an uneven cavity. Calyx open, set in a rather small basin. Flesh very juicy and buttery, with an excellent peculiar flavour. Ripens middle of September, and soon decays. Variable, sometimes excellent, often poor.

Beurré Fougiere.

A foreign pear, introduced by J. C. Lee. Fruit of medium size, obovate. Skin greenish-yellow, with patches and points

of light russet, and some dark green spots. Flesh yellowish-white, coarse grained, a little gritty at the core, melting, juicy, sweet and good. October. (Rob. Manning's Ms.)

Beurré Beaulieu.

Fruit medium, roundish, turbinate, inclining to conic. Skin greenish yellow, mostly covered with russet. Stalk short, inclined, without cavity. Calyx open, basin shallow. Flesh whitish, somewhat coarse, buttery, melting, with a brisk, vinous flavour, resembling Brown Beurré. October.

Beurré Winter. (Rivers.)

Raised by Thomas Rivers, England. Tree moderately vigorous, spreading, an early and abundant bearer. Fruit medium, obovate, elongated pyriform. Skin greenish, rough, spotted with russet. Stalk stout, curved, inclined at its insertion. Calyx firmly closed, set in a shallow irregular basin. Flesh yellowish, fine grained, melting, buttery, vinous or sub-acid. January, February.

Beurré Bennert. Bivort.

A new, hardy, late, melting pear of small size from the collection of Van Mons. Ripe February. (Riv. Cat.)

Beurré Six.

Raised by Mr. Six. Tree vigorous and productive. Fruit large, pyriform. Skin smooth, light-green, dotted with deep green and brown. Flesh white, very fine, melting, buttery, with a sugary, deliciously perfumed flavour. Ripe November, December. (Gard. Chron.)

Beurré Benoist. Al. Pom.

Beurré Auguste Benoit. Benoits.

Tree not vigorous, but very productive. Fruit medium, obovate. Skin bright green, spotted and shaded with brown russet. Stalk of moderate length, inserted in a cavity. Calyx open, in a regular basin. Flesh white, fine, melting, juice abundant, sugary and well perfumed. Ripe end of September.

Beurré Oudinot.

Fruit very large, broad pyriform. Colour yellowish-green, with a brownish cheek. Stalk obliquely inserted, basin shallow, texture fine, flavour pleasant. September. (Ad. Int. Rep.)

Beurré Goubault.

Tree vigorous, an early bearer and productive. Fruit small, irregularly oblate, inclining to conic. Skin greenish. Stalk long, in a very small cavity. Calyx large, in a shallow basin. Flesh juicy, melting, but not high flavoured. September.

Beurré Drapiez. Van Mons.

Although distinctly named by Van Mons, yet by some unaccountable error, it may prove urbaniste.

Tree of moderate vigour, very productive. Fruit large, regularly oval. Skin green, shaded with grey around the stalk and calyx. Stalk large, sometimes fleshy, placed in a small cavity. Calyx closed, in a very shallow basin, flesh white, fine, buttery, melting, very juicy and sweet, with a slight acid, very pleasantly perfumed. Ripe the end of November. (Al. Pom.)

Beurré Soulange.

Size medium to large, form acute pyriform; stalk an inch or more in length, fleshy at its junction. Colour pale clear yellow, with occasional traces of russet. Flesh melting, and very juicy, flavour rich, sugary, with a peculiarly pleasant aroma. Season October, November. (Wilder's Rep.)

Beurré de Montgeron.

New Frederick of Wurtemburg.

Tree very vigorous, moderately productive. Fruit medium, regularly pyriform. Skin yellow at maturity, reddish orange on the sunny side. Flesh white, half fine, half buttery, melting, sufficient juice, sugary, and flavour of the Rousselet. Ripe the end of September. (Al. Pom.)

Beurré Bretonneau. Esperen.

One of Major's Esperin's seedlings. Tree of a beautiful pyramidal form, very vigorous, but comes late into bearing. Fruit large, variable in form, generally elongated-pyriform. Skin rough, light-green, becoming golden yellow at maturity, reddish brown in the sun. Flesh fine, yellowish-white, not juicy, half melting, sugary, vinous, pleasantly perfumed. March and April. (Al. Pom.)

Beurré de Quenast.

Tree vigorous and productive. Fruit oval, turbinate, becomes slightly yellow at maturity. Flesh fine, white, melting, juicy,

sweet and pleasantly perfumed, having a resemblance to the Almond Pear. (An. Pom.)

Beurré Gens. Van Mons. Al. Pom.

Tree vigorous, very productive. Fruit medium, irregularly obovate, inclining to conic, truncate. Skin rough, greenish, slightly shaded on the sunny side and thickly covered with russet dots. Stalk short and thick, inserted in a cavity at an inclination. Calyx open, stiff, in a broad rather deep uneven basin. Flesh sugary, perfumed, excellent. September.

Beurré Philippe Delfosse. Gregoire.

Raised by M. Gregoire of Belgium. Tree vigorous and productive. Fruit medium or large, form of Bergamot, or turbinate, or pyriform. Skin smooth, light green, becoming golden yellow at maturity, pointed and shaded with bright red. Flesh white, fine, melting, buttery, juice abundant, sugary, and strongly perfumed. Begins to ripen in December and continues until January. (An. Pom.)

Beurré Scheidweiler.

Tree stout and vigorous, inclining to a pyramid; good bearer. Fruit medium, obovate, pyriform. Skin green or dull green, changing very little to maturity. Flesh buttery, sweet and rich. September and October. (Al. Pom.)

Beurré Burnicq. Esperen. Al. Pom.

Tree of medium vigour. Fruit medium, pyriform, turbinate. Skin rough, entirely covered with russet. Flesh fine, whitish-green, juicy, sugary, and strongly perfumed. Ripens towards the end of October.

Beurré Citron. Van Mons.

Fruit sufficiently large, obovate. Skin bright green, becoming lemon-yellow at maturity. Flesh fine, white, almost buttery, juicy, somewhat acid, valuable chiefly for its late keeping. February, March. Good in Belgium. (Al. Pom.)

Beurré d'Elberg. Bivort.

Tree moderately vigorous. Fruit large, obtuse pyriform. Skin pale yellow, often with a blush, slightly speckled with russet. Stalk medium, stout, curved, inserted in an irregular cavity. Calyx small, open, set in a very small basin. Flesh whitish, somewhat coarse, juicy, buttery, melting, sweet and perfumed. November.

Beurré de Koning. Van Mons.

Tree moderately vigorous, productive. Fruit of rather medium size, oblate, bergamot-shaped. Skin yellowish-green, inclining to russet with numerous brown dots. Stalk of medium length, stout, inserted in a moderate cavity. Calyx open, set in a broad basin. Flesh white, juicy, melting, with a fine, brisk, vinous flavour, more delicate and less perfumed than Gansel's Bergamot. October.

Beurré Hamecher. Bivort.

A new Pear from Belgium. Fruit medium, elongated-oval, inclining to pyriform, angular, and irregular. Stalk large, long, curved, inserted at an inclination by a lip. Calyx small and closed, set in a shallow irregular basin. Flesh melting, sugary, and excellent. October, November.

Beurré Duhaume. Thomp.

Tree a moderate grower, productive, young wood yellowish-brown. Fruit medium, oblate, turbinate, very much depressed, with a suture along one side. Skin rough, covered with thin russet, and thickly sprinkled with russet dots. Stalk short, thick and fleshy, inserted by a lip at an inclination. Calyx open, segments stiff, basin irregular. Flesh coarse, buttery, juicy, melting, with a pleasant vinous flavour. November to February.

Beurré Millet of Angers.

Tree vigorous and very productive, young wood yellowish-brown. Fruit medium, angular, somewhat conic. Skin greenish, covered with russet and thickly sprinkled with minute russet dots. Stalk medium, stout, curved, inserted in a rather abrupt cavity. Calyx closed, set in a deep irregular basin. Flesh greenish, somewhat buttery, exceedingly juicy, melting, with a brisk vinous flavour, sometimes astringent. November to January.

Beurré de Brignais.

Des Nonnes. Poire des Nonnes.

Tree of moderate growth, productive. Fruit medium, roundish, obtuse, conic. Skin greenish with numerous grey dots. Stalk long, curved, inserted in a narrow, uneven cavity. Calyx closed, basin shallow, corrugated. Flesh white, juicy, melting, with a brisk, perfumed, but not high flavour. Ripe middle and last of September.

Beurré Leon le Clerc.

Fruit above medium, oval, approaching elongated-pyriform. Skin yellowish green, thickly speckled with large russet dots. Stalk long, curved, inserted in a cavity by a lip, basin abrupt, deep. Calyx partially closed. Flesh white, juicy, melting, sweet but not high flavoured. October.

Beurré, Brown. Thomp. Lind. Mill.

Beurré Gris. *Nois.*
Beurré Rouge.
Beurré d'or.
Beurré Dorée.
Beurré d'Amboise.
Beurré d'Ambleuse.
Beurré du Roi.
Poire d'Amboise.
Isambert.
Isambert le Bon.
of various French gardens.
Beurre. *O. Duh.*
Golden Beurré.
Red Beurré, (*of some.*)
Badham's.
Grey Beurré.
Beurré d'Anjou, (*of some.*)
Beurré Vert.

The Brown Beurré, almost too well known to need description, was for a long time considered the prince of pears in France, its native country, and for those who are partial to the high vinous flavour—a rich mingling of sweet and acid—it has, still, few competitors. It is, however, quite variable in different soils, and its variety of appearance in different gardens, has given rise to the many names, grey, brown, red, and golden, under which it is known. Shoots diverging, dark brown.

Fruit large, oblong-obovate, tapering convexly quite to the stalk. Skin slightly rough, yellowish-green, but nearly covered with thin russet, often a little reddish brown on one side. Stalk from one to one and a half inches long, stout at its junction with the tree, and thickening obliquely into the fruit. Calyx nearly closed in a shallow basin. Flesh greenish-white, melting, buttery, extremely juicy, with a rich sub-acid flavour. September.

Beurré d'Amanlis. Thomp. Nois.

Beurré d'Amaulis. *Ken. Man.*

A Belgian pear, very productive; variable. Succeeds best in cold latitudes.

Fruit large, obovate, not very regular, a little swollen on its sides. Skin rather thick, dull yellowish-green, with a pale reddish brown cheek, overspread with numerous brown dots and russet streaks and patches. Stalk a little more than an inch long, set rather obliquely in a shallow, irregular cavity. Calyx open, with broad divisions, basin shallow. Flesh yellowish, somewhat coarse, but buttery, melting, abundant, rich, with slightly perfumed juice, often astringent and poor. September.

Beurré Duval. Thomp.

A new Belgian pear, raised by M. Duval. It is good, and bears abundantly. Fruit of medium size, obtuse-pyriform. Skin pale green. Flesh white, buttery, melting, and well flavoured. October and November.

Beurré Preble. Man. in H. M.

A large and excellent pear, named by Mr. Manning in honour of Commodore Edward Preble, U. S. N., and raised from seed, by Elijah Cooke, of Raymond, Maine.

Fruit large, oblong-obovate. Skin greenish-yellow, mottled with russet and green spots. Stalk about an inch long, very stout, set in a moderate hollow. Flesh white, buttery, and melting, with a rich, high flavour. October and November.

Beurré Colmar. Van Mons. Nois.

Beurré Colmar d'Automne.

It is one of Dr. Van Mons' seedlings, and is quite distinct from the Autumn Colmar.

Fruit of medium size, almost elliptical, or oval-obovate, regularly formed. Skin smooth, pale green, becoming yellowish at maturity, with a blush next the sun, and thickly sprinkled with dots. Stalk an inch long. Calyx expanded, and set in a very shallow, narrow, irregular basin. Flesh very white, slightly crisp at first, but becoming very juicy and melting, with a slightly perfumed flavour. October.

Beurré Van Marum. Thomp.

Grosse Calebasse (*of Longelier.*) Triomphe de Haslet.
Triomphe de Nord. Poire Carafour.
Bouteille.

Fruit large, oblong-pyriform. Skin yellow, rarely with a little red. Stalk rather long and slender, inserted in a flattened cavity. Calyx large, set in a regular shallow basin. Flesh white, liable to rot at the core and not of very good quality. October.

Beurré, Mllett's Guernsey. Thomp.

Mollet's Guernsey Chaumontelle. *Ken?*

A new English variety, raised by Charles Mollet, Esq., of the Island of Guernsey.

Fruit of medium size, oval-pyriform. Skin rather uneven, yellow and yellowish-green, nearly covered on one side with dark cinnamon brown russet, in stripes and tracings. Flesh yellowish, melting and buttery, with a rich vinous flavour. December.

Beurre Rance. Thomp.

Beurré Rance. *Lind.*
Hardinpont du Printemps.
Beurré Epire.
Beurré de Flandre.
Josephine, *incorrectly of some.*
Beurré de Ranz.
Noirchain.

The Beurré Rance is considered by all English cultivators, the best very late pear yet generally known. The wood is brownish-yellow, straggling in growth, and rather pendulous when in bearing, and when the tree has attained a moderate size it bears well.

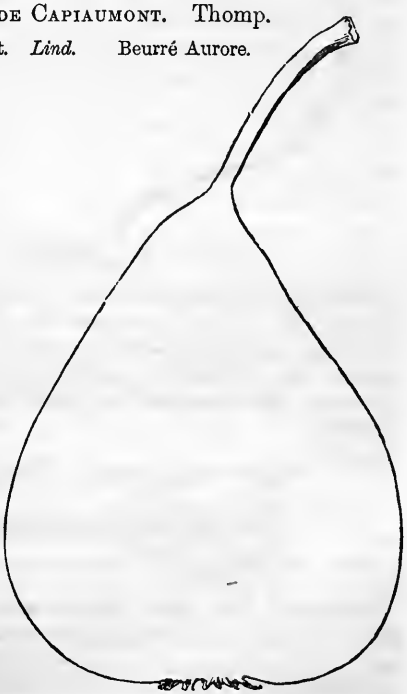
Fruit of medium size, obtuse pyriform. Skin dark green, even at maturity, rather thick, and dotted with numerous russet specks. Stalk rather slender, an inch and a half long, set in a slight, blunt depression, or often without any cavity. Calyx quite small, and set in a basin very little sunk. Flesh greenish-white, melting, a little gritty at the core, full of sweet, rich juice, of excellent flavour. Succeeds in England, Belgium, and France, but does not in this country, except at the south or in warm soils, and particular localities.

Beurré de Capiaumont. Thomp.

Capiumont. *Lind.* Beurré Aurore.

A Flemish pear, very fair, and handsomely formed, and a capital bearer, hardy in all soils and seasons; sometimes first rate; but when the tree is heavily laden, it is apt to be slightly astringent. It grows freely; branches a little pendant, greyish yellow.

Fruit of medium size, long turbinate, very even, and tapering regularly into the stalk. Skin smooth, clear yellow, with a light cinnamon red cheek, and a few small dots and streaks of russet. Calyx large, with spreading segments, prominently placed, and not at all sunk. Stalk from three



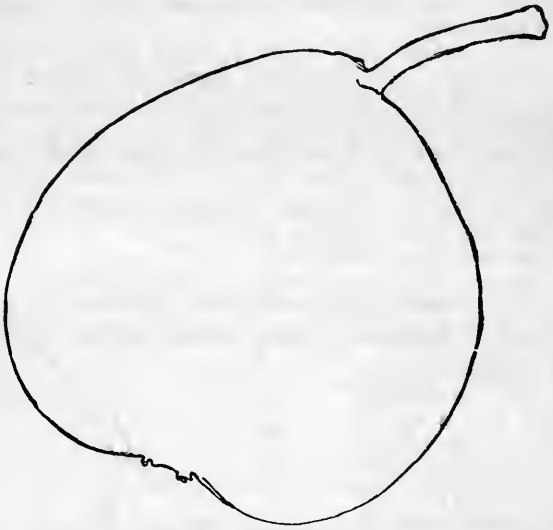
Beurré de Capiaumont.

fourths to an inch and a half long, curved. Flesh fine grained, buttery, melting, sweet, and when not astringent, of high flavour. September and October. Variable and uncertain.

This is quite distinct from the Frederick of Wurtemburgh, an irregular fruit, sometimes called by this name.

Beymont. Bouvier. Al. Pom.

Beurré Bieumont.



Beurré Bieumont.

Tree vigorous, very productive. Fruit medium or above, obovate, truncate, or obtuse-pyriform. Skin thin, rich, crimson russet. Stalk long, curved, inserted by a slight lip. Calyx small, in a shallow basin. Flesh juicy, melting, exceedingly sweet, rich, and perfumed; gives promise of great excellence. October to December.

Bezi* de Montigny. Thomp. Lind Poit.

Trouvé de Montigny.
Beurré Romain? *of some American gardens.*
Doyenne Musque.
Louis Bosc.

A pleasant, juicy fruit, with a musky flavour, but not first rate. The skin is remarkably smooth, and the pear is evenly

* *Bezi* signifies *wilding*, i. e. natural seedling found near Montigny, a town in France.

formed. It is a good bearer. Fruit of medium size, very regularly obovate. Skin pale yellowish-green, with numerous grey dots. Stalk stout, thickest at the point of insertion, an inch long, inserted in a small shallow cavity. Calyx small, firm, open, reflexed, in a very smooth basin, scarcely sunk. Flesh white, melting, juicy, half buttery, with a sweet, musky flavour. First of October.

Bezi Vaet. Thomp. Lind

Beurre de Beaumont.

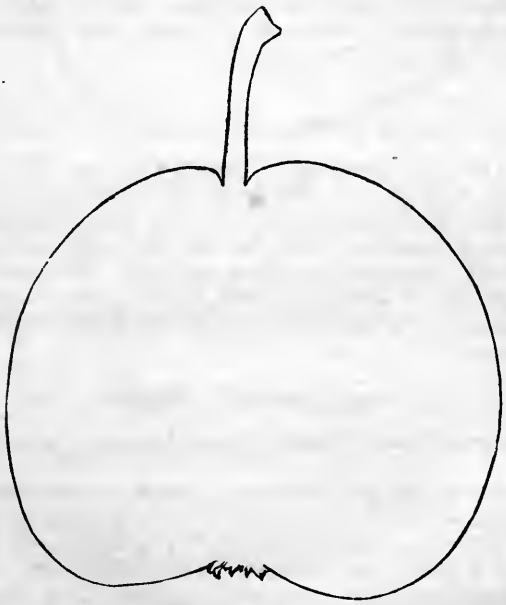
The Bezi Vaet has been considerably cultivated in this country, but is not generally considered more than a good second rate pear. The young shoots are upright, long, dark-coloured.

Fruit of medium size, obovate, narrowing to the stalk. Skin roughish, pale green, becoming yellowish, with many russety spots and a brownish cheek. Stalk an inch or more long, inserted in a slight cavity. Calyx set in a small basin. Flesh yellowish-white, melting, juicy, with a sweet, somewhat perfumed flavour. November to January.

Bezi de la Motte. O. Duh. Thomp.

Bein Armudi. Beurre blanc de Jersey.

The tree is exceedingly vigorous and productive, and the



Bezi de la Motte.

grayish-olive shoots, like the fruit, have a peculiarly speckled appearance. It ripens gradually, and may be kept a good while.

Fruit of medium size, bergamot shaped, roundish, flattened at the eye. Skin pale yellowish-green, thickly sprinkled with conspicuous russet green dots. Stalk about an inch long, green, slightly curved, and inserted in a slight, flattened hollow. Calyx small, open, set in a shallow, rather abruptly sunken basin. Flesh white, very fine-grained, buttery, juicy, with a sweet, delicate perfumed flavour. October.

Bezy Garnier.

Fruit pyriform, very beautiful. Flesh white, breaking, very juicy, sugary. Season April. (Pap. Cat.)

Bezy Sanspareil.

Bergamotte Sanspareil.

Fruit large, obscurely pyriform, very angular, and irregular. Skin yellowish green, covered with numerous brown dots. Stalk long, very fleshy at its insertion, in a slight cavity, at an inclination. Calyx open, in a moderate uneven basin. Flesh coarse and granular, buttery, juicy, melting, with a brisk vinous flavour. October to December.

Bezy Quessoy d'été.

Tree of good vigour, and of exceeding fertility. Fruit moderate size, roundish-oval, of almost equal diameters. Skin rough, thick, and altogether covered with grey russet, becoming russet fawn at maturity. Flesh yellowish-white, fine, half melting, very juicy, sugary, and deliciously perfumed. This pear is very beautiful, and of first quality, with the exception of a little grit about the core. Ripe towards the middle of September. (An. Pom.)

Bezy d'Esperen. Esperen.

Raised by Major Esperen. Tree a moderate grower, good bearer.

Fruit large, elongated-pyriform. Skin dull yellow, sprinkled and patched with russet, and thickly covered with russet dots. Stalk rather long, stout, inserted by a ring or lip, at an inclination, in a small, irregular cavity. Calyx small, open, set in a very deep, acute basin, surrounded by russet. Flesh juicy, with a sprightly, vinous flavour. October, November.

Bonne d'Ezée. Dupuy. Thomp. Bivort.

Bonne des Haies. Bonne de Longueval.
Bonne de Zées. Belle et bonne d'Ezee.

Tree moderately vigorous, productive.

Fruit large, truncate, pyriform. Skin light yellowish green, with russet patches and dots. Stalk large, long, curved, inserted in a broad cavity. Calyx small, open, basin narrow, of little depth. Flesh white, juicy, melting, sugary, brisk, rich, excellent. Sometimes cracks. September and October.

Bon Chretien Fondante. Thomp. Lind.

A recent Flemish pear, abounding with juice, and having a refreshing, agreeable flavour. In good seasons, it is first of the quality, and it bears early and abundantly. Young shoots slender, diverging, olive gray.

Fruit pretty large, roundish-oblong, regularly formed. Skin pale green, sprinkled with small russet dots, and considerably covered with russet. Stalk three-fourths of an inch long, curved, inserted in a slight depression. Calyx small, set in a narrow hollow. Flesh yellowish-white, gritty round the core, exceedingly juicy, tender, and melting, with a rich and pleasant flavour.

Bon Gustave.

Raised by Major Esperen.

Tree very vigorous, with stout shoots. Fruit middle size, regular, pyriform. Stalk medium. Calyx open, basin shallow. Skin light green, covered with russet. Flesh white, fine, buttery, juicy, sugary and perfumed. Ripe December, January. (Gard. Chr.)

Bonne Charlotte. Bivort.

Tree vigorous and productive. Fruit of moderate size, variable in form, generally resembling Doyenne. Skin smooth, lightly washed with purple on the side of the sun. Flesh moderately fine, more buttery than melting, sugary, and strongly perfumed. Should be gathered early. It is a long time in use. Ripe middle of August. (Al. Pom.)

Boston.

Raised by C. M. Hovey, Boston, Mass.

Tree vigorous, productive, young wood brownish-red. Fruit below medium size, obovate, inclining to conic, remotely pyriform. Skin yellow, with numerous small green or grey dots

and a little russet about the stem, which is rather long and inserted in a depression. Calyx set in a broad shallow basin. Flesh white, tolerably juicy, with a pleasant, sweet, somewhat aromatic flavour. September.

Brandywine. Hort.

Found on the farm of Eli Harvey on the banks of the Brandywine, Delaware Co., Pa. Tree vigorous, upright, uniformly productive. Fruit above medium, varying in form, from oblate depressed-pyriform, to elongated-pyriform. Skin dull yellowish-green, considerably dotted and somewhat sprinkled with russet, having a warm cheek on the side of the sun. Stalk is fleshy at its junction with the fruit, and generally surrounded by folds or rings. Calyx open, basin smooth and shallow. Flesh white, juicy, melting, sugary and vinous, somewhat aromatic. Ripe last of August and first of September.

Cabot. Man.

Originated from the seed of the Brown Beurré, by J. S. Cabot, Esq., of Salem, Mass. It has a good deal of the flavour of its parent, and is an agreeable, sub-acid fruit. The tree grows upright and very strong, and produces amazing crops. Fruit pretty large, roundish-turbinate, narrowing rather abruptly to the stalk, which is bent obliquely, and inserted on one side of a tapering summit. Skin roughish, bronze yellow, pretty well covered with cinnamon russet. Calyx small, open, set in a round, smooth basin. Flesh greenish-white, breaking, juicy, with a rich, sub-acid flavour. Middle and last of September.

Caen de France.

Fruit large, pyriform. Skin thick, russety-yellow, thickly covered with russety specks, and with some blotches of russet. Calyx open. Flesh yellowish-white, half melting, juicy, sweet, with a little astringency. Ripe December, January. (Hov. Mag.)

Calebasse Delvigne. Van Mons.

Tree vigorous and productive. Fruit medium or rather large, pyriform, broad at calyx. Skin yellow, slightly russeted, sometimes shaded on the sunny side. Stalk short, thick at its junction with the fruit. Calyx open, segments stiff, in a very shallow, uneven basin. Flesh white, coarse, buttery, juicy, melting, perfumed, slightly astringent, with a rich vinous flavour. October.

Calhoun.

Raised by the late Governor Edwards, New Haven, Conn.

Fruit medium, roundish, obliquely-oblate, angular. Skin yellowish, shaded with dull crimson sprinkled with russet, and thickly covered with russet dots. Stalk short, inserted in a rather broad cavity. Calyx open, set in a narrow uneven basin. Flesh white, coarse, granular, buttery, melting, abounding in juice with a rich vinous flavour, pleasantly perfumed. Ripe middle of October.

Calebasse d'Été. Esperen.

Raised from seed by Major Esperen. Tree moderately vigorous. Fruit medium, elongated-pyriform, or gourd shaped. Colour bright brown, grows yellow at maturity. Flesh white, very fine, melting, abounding in sugary juice well perfumed. Ripe beginning of September. (Al. Pom.)

Camerlyn. Bivort.

A Flemish pear, vigorous and productive.

Fruit medium, pyriform. Skin yellow, with numerous brown dots and a slightly marbled cheek. Stalk long, slightly inclined in a small cavity surrounded by russet. Calyx open, basin small and shallow. Flesh juicy, melting, rich, sugary, with a very peculiar aromatic flavour. September, October.

Canandaigua.

Catherine.

Origin uncertain, supposed to have been brought from Connecticut to Canandaigua about the year 1806, vigorous and productive.

Fruit rather large, irregular, obtuse-pyriform, surface uneven, resembling Bartlett. Skin lemon-yellow. Stalk medium or rather short, inclined. Calyx open, basin small. Flesh whitish, not very fine, buttery, and melting, with a vinous somewhat sugary flavour. September.

Cassante de Mars. Esperen.

Tree vigorous. Fruit which is borne in clusters resembles Doyenne blanc. Skin smooth, bright green, becoming golden-yellow at maturity, striped and shaded with fawn. Flesh when in full perfection is half melting, juicy, sugary, vinous, and well perfumed. Ripe December to April. (Al. Pom.)

Catharine Gardette.

Raised by Dr. W. D. Brinckle of Philadelphia. Foliage much waved, young shoots short jointed, yellow-olive on the shaded side, brownish-olive on the exposed side to the sun, with many minute white dots. Buds pointed. Size above medium, round

ish-obovate. Skin fair, yellow, with numerous small carmine dots on the exposed side. Stalk one inch long, curved, inserted by a fleshy termination into a slight depression. Calyx small, set in a rather deep, regular basin. Flesh fine texture, buttery. Flavour delicious, with a delicate aroma. Quality best, maturity beginning of September. (Trans. A. P. S.)

Catinka. Esperen.

Raised by Major Esperen. Tree of vigorous growth. Branches rather slender, productive. Fruit small to medium, obovate, pyriform. Stalk very long, inserted by a ring in an uneven cavity. Calyx large and open, with segments persistent, basin shallow, and uneven. Skin pale yellow, thickly sprinkled with russet dots. Flesh coarse, granular, buttery, melting, juicy, with a refreshing vinous flavour. October to December.

Capsheaf. Man. Ken.

A native of Rhode Island. It is a very agreeable fruit. Young shoots stout, upright, yellowish brown.

Fruit of medium size, roundish-obovate. Skin deep yellow, nearly covered with cinnamon russet. Stalk an inch long, stout, inserted in a shallow hollow. Calyx small, basin slightly sunk. Flesh white, juicy, and melting, very sweet and pleasant, but lacking a high flavour. October.

Charles Van Hooghten.

Fruit large, obovate, acute-pyriform. Stem rather stout, one inch long, set without depression, frequently surrounded with a fleshy protuberance at the junction. Calyx open, in a broad, flat basin, frequently without segments. Skin dull pale yellow, smooth and handsome, seldom with any russet or red. Flesh yellowish-white, melting, buttery, juicy. Flavour sweetish, with a little aroma. Quality medium. Ripe October 1st to 15th. Should be picked while hard. A regular, prolific bearer, healthy tree. (Col. Wilder Ms.)

Charles Smet. Van Mons.

Fruit medium, pyriform, broad at the crown. Skin yellowish, considerably russeted. Stalk long, curved, fleshy at its insertion. Calyx open, small, basin narrow. Flesh juicy, sweet, and highly perfumed. January, February.

Charles Frederick. Van Mons.

Skin smooth, bright green, becoming deep yellow at maturity, lightly coloured on the sunny side. Flesh white, fine, melt-

ing, abounding in juice, sweet, vinous, agreeably perfumed. An excellent fruit, ripening the first of October. Tree vigorous and productive, growing well as a pyramid or standard. (An. Pom.)

Charlotte de Brower. Esperen.

One of Esperen's seedlings. Tree of moderate vigour, and of great productiveness. Fruit medium or large, roundish-oval. Skin golden-yellow at maturity. Flesh white, fine, melting, juicy, sugary, vinous, perfumed. Ripens at the end of October. (Al. Pom.)

Chancellor. Brinckle in Hort.

Supposed to be a native of Germantown, Pennsylvania, on the grounds of Mr. Chancellor.

Branches horizontal, not very vigorous, spreading.

Fruit rather large, obovate. Skin greenish yellow, rough, somewhat inclining to russet, thickly covered with dots. Stem medium, curved, rather stout, fleshy at its insertion by a lip, inserted in a rather broad cavity. Calyx small, set in a moderate basin. Flesh whitish, juicy, buttery, melting, sugary, rich, perfumed, excellent. October, November.

Citron.

A seedling of the late Governor Edwards, a vigorous, upright grower, producing large crops, but inclined to rot at the core.

Fruit small, nearly globular, approaching turbinate. Stalk short, rather stout, set in an abrupt, uneven cavity. Calyx closed, basin broad, shallow, irregular. Skin greenish, slightly shaded with dull crimson. Flesh greenish, rather coarse, juicy, melting, sugary, vinous, with a musky perfume. Ripe from middle of August to middle of September.

Clay.

Sponge.

Raised by the late Governor Edwards. Fruit medium, inclining to obovate, sometimes pyriform, angular. Skin waxen-yellow, sometimes shaded with crimson, and thickly sprinkled with brown or crimson dots. Stalk medium, inserted sometimes by a lip in a moderate cavity. Calyx closed in a broad, open, furrowed basin. Flesh whitish, rather coarse, granular, juicy, sugary, perfumed. October.

Coits Beurre. Elliott.

Fruit medium, obovate, or turbinate-pyriform. Stalk about one inch long, curved, inserted at an inclination in a very slight depression. Calyx large, nearly closed, set in a broad uneven

basin. Skin yellow, inclining to russet, sometimes with a sunny cheek, thickly covered with dots which become crimson on the exposed side. Flesh rather coarse, slightly granular, buttery, melting. Flavour rich, sugary, vinous. September.

Columbia.

Columbian Virgalieu. Columbia Virgalouse.

The original tree grows on the farm of Mr. Casser, in Westchester Co., New York. The tree grows upright, with stout brownish-yellow shoots. This fine pear was first brought into notice a few years since, by Bloodgood & Co., of Flushing. Young wood stout, upright, yellowish-brown.

Fruit large, regularly formed, obovate, usually a little oblong, and always broadest in the middle. Skin smooth and fair pale-green in autumn, but when ripe, of a fine golden-yellow with occasionally a soft orange tinge on its cheek, and dotted with small grey dots. Stalk rather more than an inch long, slightly curved, placed towards one side of a narrow depression. Calyx of medium size, partially open, set in a very shallow basin. Flesh white, not very fine grained, but melting, juicy, with a sweet, aromatic flavour. November to January. Very apt to drop from the tree previous to ripening.

Collins. Hov. Mag.

Watertown.

Raised by A. Collins of Watertown, Mass., and first exhibited before the Massachusetts Horticultural Society in 1848. Tree of moderate growth, with reddish shoots.

Fruit medium, regularly obovate, inclining to turbinate. Skin greenish-yellow, with russet spots, and frequently a blush on the sunny side. Stalk short, thick, inserted at an inclination without cavity. Calyx small, and very little sunk. Flesh fine, melting, juicy, with a brisk, sugary flavour, resembling white Doyenne. Ripens first of October.

Colmar d'Alost. Bel. Hort.

Comtesse d'Alost. Duchesse d'Alost.
Delies d'Alost.

A Belgian variety. Tree vigorous and productive.

Fruit large, elongated-pyriform, sometimes obovate. Skin greenish-yellow, with a red cheek, sprinkled with many green or brown dots, often much russeted. Stalk large, rather long and curved, inserted in a slight depression. Calyx open, segments long, basin shallow and uneven. Flesh white, buttery, melting, juicy, slightly astringent. October, November.

Comte Lelieur.

Of Belgian origin. Tree vigorous, upright, moderately productive. Fruit medium, turbinate. Skin yellowish-green, with a brownish-red cheek, speckled with grey and patched with russet. Flesh yellowish-white, fine grained, melting, juicy, sweet and very high flavour. September. (Rob. Mannings' Ms.)

Comte de Paris. Bivort.

One of Van Mons' seedlings. Tree pyramidal, very vigorous. Fruit medium, regularly pyriform. Skin thick, somewhat rough, bright green, becomes yellow at maturity. Flesh white, melting, buttery, juice very abundant, sugary, and agreeably perfumed. Ripe in October and continues in use a long time. (Al. Pom.)

Compte de Lamy. Thomp.

Beurré Curté.	Marie Louise Nova.	} *ac. to*
Dingler.	Marie Louise the Second.	} *Thomp.*

Young shoots, pretty strong, upright, dark coloured.

Fruit of medium size, roundish-obovate. Skin yellow, with a brownish-red cheek, and sprinkled with small russety dots. Stalk an inch long, straight, obliquely inserted under a lip, or planted in a slight cavity. Calyx small, set in a shallow, smooth basin. Flesh white, fine grained, buttery, melting, saccharine, and high flavoured. Last of September to middle of October.

Comte de Flandre. Van Mons. An. Pom.

Tree vigorous, forming a pyramid, one of Van Mons' seedlings. Fruit large, obliquely-pyriform. Skin yellowish, considerably covered with russet. Stalk long, much inclined, and inserted by a lip, in a small cavity. Calyx open, set in an exceedingly shallow corrugated basin. Flesh very buttery, melting, juicy, granular, sweet and rich, highly perfumed, astringent near the skin. November.

Conseiller de la Cour. Van Mons.

Marechal de la Cour.

One of Van Mons' seedlings. Tree moderately vigorous, pro ductive. Fruit large, obovate, inclining to pyriform, oblique. Skin rough, greenish, slightly russeted, and covered with russet dots. Stalk short, inserted by a lip at an inclination in a moderate cavity, surrounded by russet. Calyx also surrounded by russet, set in a narrow basin. Flesh white, buttery, juicy, melt

ing, slightly astringent, with an excellent rich vinous flavour, resembling Gansel's Bergamot. October.

Conseiller Rauwez. Wilder in Hort.

Tree vigorous, very productive. Fruit large, very irregularly oblate, obscurely pyriform. Skin green, rough, with a few patches of russet, and many brown dots. Stalk shortish, inserted in a broad cavity by a slight lip or fleshy ring. Calyx open, stiff, set in a deep broad furrowed basin. Flesh coarse, a little granular, juicy, melting, perfumed, sweet, vinous, slightly astringent. October.

Cooke.

Origin, King George County, Virginia. Tree a very strong, vigorous grower, and productive. Introduced by H. R. Roby, Fredericksburgh, Virginia. Fruit rather large, irregularly pyramidal. Colour pale-yellow. Flesh juicy, buttery, melting, sweet, rich, and vinous. (Roby.)

Coter. Hov. Mag.

One of Van Mons' seedlings, of moderate growth and productive.

Fruit rather large, irregular pyriform. Skin yellowish, with numerous grey dots, some patches of russet, and russet around the calyx and stem. Stalk long, slightly curved, and enlarged at its insertion without cavity, and inclined. Calyx open, set in a rather large, abrupt, not very deep basin. Flesh whitish, not very fine, juicy, vinous, with a rich refreshing flavour. December.

Crassane d'Hiver. (Bruneau.)

A medium size, high flavour, half melting pear. Ripening in March. (Riv. Cat.)

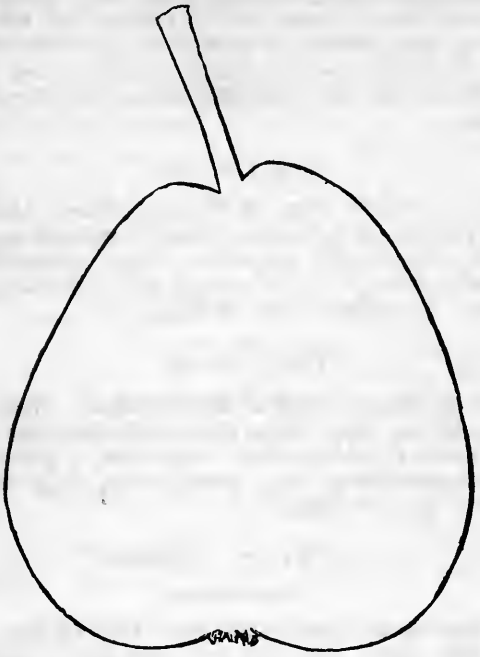
Cross. Hovey's Mag.

Originated on the premises of Mr. Cross, of Newburyport, Mass. Branches rather slender, greyish-yellow, of slow growth.

Fruit of medium size, roundish. Skin smooth, at first pale, but ripening to a deep yellow, with a red cheek, and marked with numerous russet dots, and patches of russet around the eye. Stalk three-fourths of an inch long, very thick, planted in a slight depression. Calyx small, basin a good deal sunk. Flesh white, melting, juicy, and sweet, with a rich and perfumed flavour. In eating from the last of November to the middle of January, but chiefly in December.

Cushing. Man.

The Cushing is a native of Massachusetts, having originated on the grounds of Colonel Washington Cushing, of Hingham,



Cushing.

about forty years ago. It is a very sprightly pear, and like many of our native varieties, it produces most abundant crops. Branches rather slender, diverging, greyish-brown.

Fruit medium size, often large, obovate, tapering rather obliquely to the stem. Skin smooth, light greenish-yellow, sprinkled with small grey dots, and occasionally a dull red cheek. Stalk an inch long, planted in an abrupt cavity. Calyx rather small, set in a basin of moderate size. Flesh white, fine grained, buttery, melting, and abounding in a sweet, sprightly, perfumed juice of fine flavour. A hardy and capital variety for all soils. Not high flavour. Middle of September.

Hanna or *Hanners*, quite distinct from the above: the young wood of Cushing is greyish-brown, while the Hanners is greenish. Fruit similar to Cushing.

Dallas.

Raised by Governor Edwards of New Haven, Conn. Tree upright, vigorous, young wood thorny, reddish-brown.

Fruit medium, oblate, obtuse-pyriform. Skin yellow, with a sunny cheek, thickly sprinkled with crimson and russet dots. Stalk large, long, inserted by a slight lip, in a very moderate cavity. Calyx open, basin shallow, corrugated. Flesh buttery, juicy, with a sweet, rich, pleasant flavour. Ripe October and November.

Dana's No. 19.

Raised by Francis Dana, of Roxbury, Mass. Fruit large, obovate, swelling out at the base. Stalk of moderate length, inserted in a rather slight depression. Skin yellow and thick. Flesh white, tender, juicy, half melting, with a pleasant perfumed flavour. November. (Hov. in Mag.)

Dana's No. 16.

Raised by Francis Dana, of Roxbury, Mass. Fruit under medium, obovate. Skin yellow russet, with dark russet specks. Stem in a very slight depression. Calyx open, in a deep cavity. Flesh yellowish-white, juicy, tender, sweet, high flavoured. November. (Hov. in Mag.)

De Bavay. Van Mons.

Poire de Bavay.

Tree very vigorous, and productive. Fruit pyriform, rather large. Skin yellow, with numerous grey dots. Stalk large, slender, curved, inserted in a cavity. Calyx rather large, open, basin small. Flesh juicy, melting, with a brisk vinous flavour. September, October.

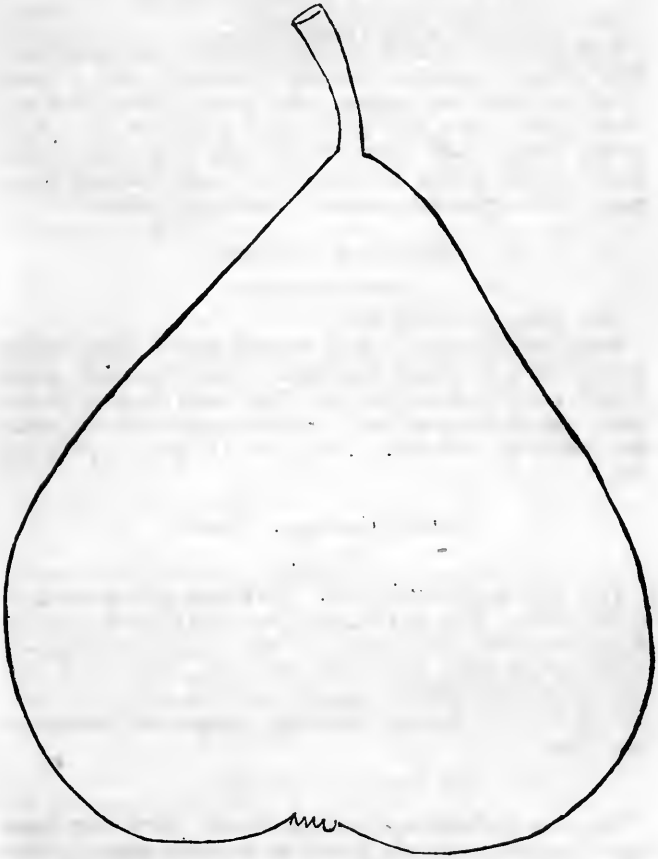
De Louvain. Van Mons.

Poire de Louvain. *Nois Lind.* Bezy de Louvain.

Raised by Van Mons in 1827. Fruit of medium size, obovate, inclining to pyriform, and tapering to the stalk. Skin rather uneven, clear light yellow, a little marked with russet, and dotted with brown points, which take a ruddy tinge next the sun. Stalk about an inch long, stout, inserted obliquely without depression, or by the side of a fleshy lip. Calyx placed in a very narrow, shallow basin. Flesh white, buttery, and melting, with a rich, perfumed, and delicious flavour. Ripens the last of September, and keeps till November.

Delices de Charles. Van Mons.

Fruit medium, pyramidal. Skin yellowish-green, with marblings of russet, and russet dots. Stalk strong, curved, inserted with scarcely any depression. Calyx small, open, basin broad. Flesh white, juicy, melting, flavour rich and vinous, resembling Brown Beurré. December.



Delices d'Hardenpont of Belgium.

Delices d'Hardenpont of Belgium.

Fondante Pariselle of some.

Tree moderately vigorous, upright, with long, slender shoots.

Fruit medium, truncate conic, or pyramidal, angular. Skin rough, greenish, covered with small brown dots, becoming yellowish at maturity. Stalk short and thick, inserted in a small uneven cavity at an inclination. Calyx large, set in a shallow, furrowed basin. Flesh white, buttery, juicy, melting, sweet, and rich, with a fine aromatic perfume. November, December.

Delices d'Hardenpont of Angers.

Tree of moderate growth, productive.

Fruit medium, roundish, remotely pyriform, sometimes conic. Skin greenish, becoming yellowish at maturity, with a warm cheek, sprinkled and patched with russet. Stalk short and thick, inserted by a ring or lip at an inclination, in a small cavity. Calyx small, segments caducous, in a small, uneven basin. Flesh whitish, not very fine, nearly melting, juicy, sugary, with a pleasant perfume. October, November.

De Sorlus. Van Mons.

Bergamotte de Solers.

Tree of fine pyramidal habit.

Fruit obtuse-pyriform. Stem about an inch in length, rather stout, planted in a slight depression. Colour light dull green, becoming yellow at maturity, with some russet around stem and calyx. Flesh white, half melting, middling juicy, flavour pleasant, but lacks character. November, December. (Wilder's Rep.)

Désirée Cornelis. Bivort.

Cornelis.

Tree very vigorous and fertile. Fruit large, pyriform, swelled at its centre. Skin bright green, becoming somewhat yellow at maturity, spotted and striped with brown, and slightly coloured on the sunny side. Flesh white, very fine, melting, and buttery, juicy, sweet, with an agreeable perfume, but not a musk. One of the best fruits of its season. August and September. (An. Pom.)

De Tongres. Durandeau.

Tree very productive, of moderate vigour. Fruit very large, conic, pyramidal, strongly bossed on its whole surface. Skin green, bronzed, becoming deep yellow at maturity, and is entirely shaded with brown russet, and striped with red on the sunny side. Flesh white, fine, melting, very juicy, sugary, vinous, and pleasantly perfumed. It is beautiful and excellent, and ripens the middle of October, and keeps till the middle of November. (An. Pom.)

Deux Sœurs. Esperen.

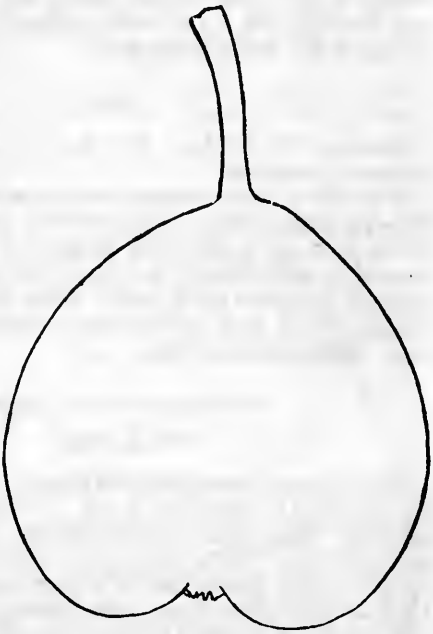
A fine tree, very productive. Fruit large, elongated, pyriform. Skin green, spotted with dark brown. Flesh fine yellowish green, buttery, juicy, very sugary, with a decided flavour of almonds. November. (Al. Pom.)

Dundas. Van Mons. Man. in Hov. Mag.

Elliott Dundas. Bonvier.
Rousselet Jamin. Bonvier.

A Belgian variety, sent to this country by Van Mons, in 1834.

Fruit medium size, obovate, inclining to turbinate. Skin clear yellow, sprinkled with greenish black dots, and heightened by a very brilliant red cheek. Stalk dark brown, an inch long, stout, inserted without depression. Calyx small, placed at the bottom of a deep round basin. Flesh yellowish-white, half buttery, melting, with a rich perfumed juice. First of October, and keeps some time.



Dundas.

Dikeman.

Pardee's No. 2.

Raised by S. D. Pardee, New Haven, Conn., from whom we received specimens. Tree vigorous and productive, young wood maroon.

Fruit medium, roundish, oblate. Skin yellowish, thickly covered with minute dots. Stalk curved, fleshy at its insertion, in a moderate cavity. Calyx nearly closed, segments persistent,

basin broad and uneven. Flesh whitish, buttery, juicy, melting, with a rich, vinous flavour, perfumed. Ripe from the middle of September to the middle of October.

Diller.

Tree of slow growth, young wood yellow, sometimes cankers.

Fruit below medium, nearly globular. Skin yellowish, sprinkled with russet. Stalk long, inserted in a very slight cavity, by a fleshy ring. Calyx closed, set in a rather broad, shallow basin. Flesh whitish, coarse, and granular, juicy, buttery, melting, with a very sweet, perfumed flavour. Ripe last of August and first of September.

Dow.

Raised by Dr. Eli Ives, New Haven, Conn. Tree upright, vigorous, productive.

Fruit rather above medium, obovate, acutely pyriform, sometimes turbinate. Skin rough, yellowish green, sprinkled with russet dots, and a few small patches of russet. Stalk long, inserted at an inclination in a very slight cavity. Calyx large, open, set in a very small basin. Flesh white, buttery, juicy, melting, with a good vinous flavour, sometimes slightly astringent. September, October.

Doyenne Robin of Langelier.

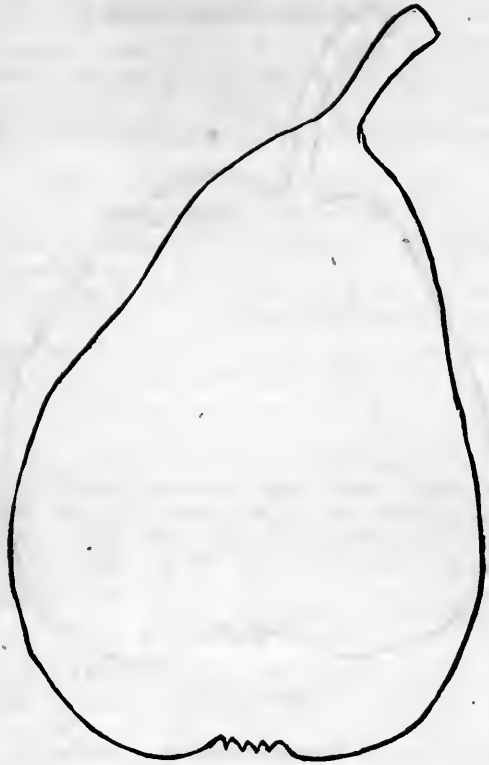
Beurre Robin.

Tree vigorous, yellowish-brown shoots. Fruit medium, roundish, very much depressed at top and bottom; angular and irregular. Skin greenish yellow, thickly sprinkled with russet and grey dots. Stalk, long, stout, inserted in a broad deep cavity. Calyx closed, set in a wide, open, irregular basin. Flesh whitish, rather coarse, juicy, melting, somewhat granular, with a rather rich vinous perfumed flavour. September.

Doyen Dillen. Van Mons.

Deacon Dillen.

Tree vigorous and productive. Fruit rather large, oblong, pyriform, or oblongated conic. Skin fine yellow, inclining to russet, thickly sprinkled with russet specks. Stalk short, thick, and fleshy, strongly fixed without any depression. Calyx small, rarely open, basin of moderate depth. Flesh juicy, buttery, sweet and rich. October, November.



Doyen Dillen.

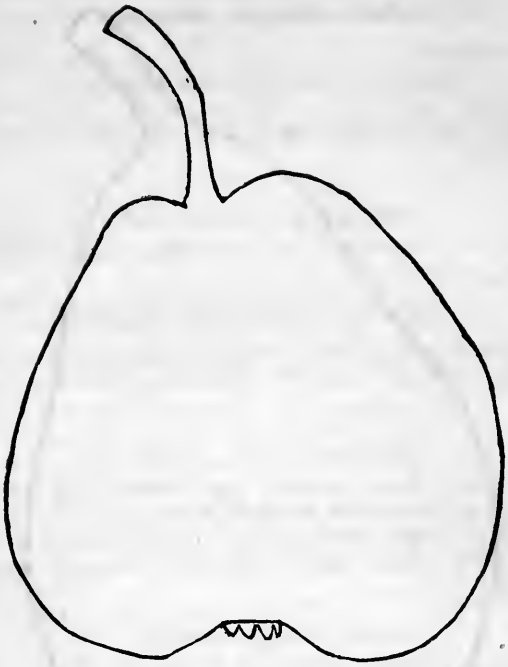
Coffin's Vergelieu.

Winter Vergelieu.

Fruit large, fair and productive, sweet and juicy, but not high flavoured. Ripe early in winter. (Man. in Hort.)

Doyenne Goubault.

Of slow growth, and rather slender branches. Fruit medium, occasionally large, obovate, acute-pyriform. Stalk short, and thick. Calyx small, deeply sunk. Colour, dull pale yellow, with a few traces of russet, particularly around stem, and calyx. Flesh melting, and juicy. Flavour rich, sweet, aromatic. Ripe December to February. (Wilder in Hort.)



Doyenne Defais.

Doyenne Defais.

Tree moderately vigorous, productive. Fruit medium, trun cate, conic, or very obtuse-pyriform. Skin waxen yellow, with a bright crimson cheek. Stalk rather long, curved, inserted in a deep, abrupt, uneven cavity. Calyx open, segments persistent, basin large and open. Flesh white, juicy, buttery, melting. Flavour sweet, rich, and delightfully perfumed. October, November.

Doyenne Downing. Leroy

Raised by André Leroy, and dedicated to the late A. J. Downing.

Fruit medium size, roundish, irregular. Skin yellowish green, sprinkled with russet dots. Stem short, obliquely inserted. Flesh white, crisp, juicy, sugary, and vinous. September. (Leroy's Cat.)

Docteur Lentier. Gregoire.

Tree vigorous and productive. Fruit medium, pyriform. Skin bright green, becoming slightly yellow at maturity. Flesh fine, melting, buttery, juice abundant, sugary, and deliciously perfumed. Mature at the end of October and November. (An. Pom.)

Docteur Bouvier. Van Mons.

A vigorous tree, covered with long sharp spines, forming a beautiful pyramid, very productive.

Fruit large, elongated-pyriform. Skin light green, taking a slight tint of yellow at maturity, and mottled with russet. Flesh white, fine, half buttery, half melting, sufficiently juicy, vinous, and of a perfume most agreeable. February, March. (Al. Pom.)

Docteur Capron. Bivort.

A new pear of good promise, it has a thick skin of greenish yellow colour, covered with blotches of russet red in the sun, and russet specks. Calyx closed. Flesh yellowish white, melting, of a pleasant, rather spirited flavour. October, November. (Hov. Mag.)

Dr. Trousseau. Bivort.

A seedling of Alex. Bivort. Fruit large, pyriform. Skin green, spotted with red, and sprinkled with grey dots. Stalk strong and woody. Flesh firm, white, melting, buttery, with an abundance of perfumed sugary juice. Ripe, November, December. (An. Pom.)

Duchesse d'Orleans. Thomp. Ken.

Beurré St. Nicholas. St. Nicholas.

Fruit rather above medium, obovate, including to pyriform, largest near the centre. Skin yellowish-green, sometimes a sunny cheek, with brown dots. Stalk long, pretty large, curved, inserted by a fleshy protuberance. Calyx nearly closed, set in a shallow uneven basin. Flesh juicy, melting, slightly aromatic, with a very good flavour. September.

Duchesse de Berry d'Été.

Fruit small, oblate, obscurely pyriform. Skin yellow, shaded with light red. Stalk short, inserted in a small cavity. Calyx

partially open, set in a broad shallow basin. Flesh juicy, melting, with a good vinous flavour. Ripens last of August.

Duchesse de Brabant. Duricux.

Tree very vigorous. Fruit of good size, turbinate, pyriform, sometimes elongated. Skin rough, bright green, becoming moderately yellow at ripening, much shaded with bright russet. Flesh whitish yellow, fine, melting, juice abundant, sugary, vinous, finely perfumed. Fruit of the first quality, ripening at the end of October. (An. Pom.)

Duchesse d'Angouleme. Lind. Thomp.

A magnificent large dessert pear, sometimes weighing a pound and a quarter, named in honour of the Duchess of Angoulême, and said to be a natural seedling, found in a forest hedge, near Angers. When in perfection, it is a most delicious fruit of the highest quality. We are compelled to add, however, that the quality of the fruit is a little uncertain on young standard trees. On the quince, to which this sort seems well adapted, it is always fine. The tree is a strong grower, the shoots upright, light yellowish-brown, and it is deserving trial in all warm dry soils.

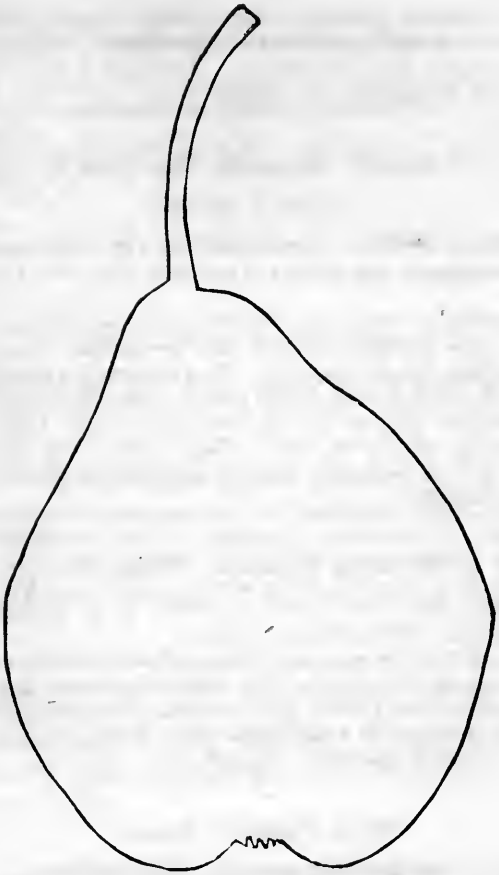
Fruit very large, oblong-obovate, with an uneven, somewhat knobby surface. Skin dull greenish-yellow, a good deal streaked and spotted with russet. Stalk one to two inches long, very stout, bent, deeply planted in an irregular cavity. Calyx set in a somewhat knobby basin. Flesh white, buttery, and very juicy, with a rich and very excellent flavour. October.

Duc de Brabant.

Desirée Van Mons.	Beurre Charneuse
Fondante des Charneuse.	Waterloo.
Miel d'Waterloo.	Belle Excellente.
Jamin.	

Tree hardy, vigorous, productive, and equally suited with light or tenacious soil.

Fruit large, oval, pyriform, tapering from centre to base and apex, angular. Skin greenish, shaded with crimson on the sunny side, and thickly sprinkled with greenish dots. Stalk long, curved, and twisted, somewhat fleshy at its insertion, in a very small cavity. Calyx large and open, segments persistent, in an irregular ribbed basin. Flesh whitish green, very juicy, buttery, melting, with a refreshing vinous flavour. October, November.



Duc de Brabant.

DUMORTIER. Thomp. Nois.

A very excellent little Belgian pear, often remarkably high flavoured. Fruit nearly of medium size, obovate. Skin dull yellow marked with russet patches and dots. Stalk nearly two inches long, slender, planted without depression. Calyx small, open, set in a slight basin. Flesh greenish-white, juicy, melting, exceedingly sugary and rich, with a highly perfumed aromatic flavour. It keeps but a short time. September.

DUPUY CHARLES. Berkmans.

Tree vigorous and fertile, forms a pyramid.

Fruit medium, pyriform. Skin rough, becomes yellow at maturity, and chiefly covered with fawn russet. Flesh whitish-green, melting, juicy, very sugary. An excellent fruit ripening the end of November. (Al. Pom.)

Elizabeth, Manning's. Man. in H. M.

Van Mons. No. 154.

Manning's Elizabeth, a seedling of Dr. Van Mons', named by Mr. Manning, is a very sweet and sprightly pear, with a peculiar flavour.

A beautiful dessert fruit, productive, growth moderate, shoots reddish, and sprinkled with red and brown dots. Fruit below medium size, obovate, shaped like the Julienne, or a small White Doyenné. Skin smooth, bright yellow, with a lively red cheek. Stalk one inch long, set in a shallow, round cavity. Calyx open, set in a broad shallow basin. Flesh white, juicy, and very melting, with a saccharine, but very sprightly, perfumed flavour. Last of August.

Elizabeth, Edwards'. Wilder. Mss.

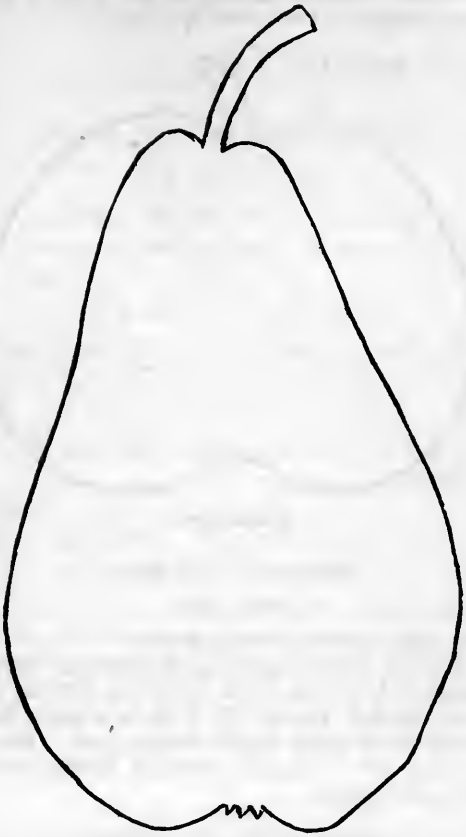
Edwards' Elizabeth is a seedling, raised by Ex-Governor Edwards, of New Haven, Conn.

Fruit of medium size, often large, obtuse-pyriform, angular, and oblique at the base, the stalk frequently planted in a fleshy protuberance, like a fold. Skin smooth, yellowish-green, very fine, and of a peculiar waxen appearance. Flesh, white, buttery slightly sub-acid and good. October.

Emile d'Heyst. Esperen.

This fruit was dedicated by Major Esperen to the son of his friend L. E. Berckmans of New Jersey.

A Belgian fruit. Tree of moderate vigour. A healthy and good grower, but straggling and not easily brought to a pyramidal form. It seems well suited to this climate and grows well on quince. Young wood fawn or light-brown, rather slender. Fruit large or above medium size, long calebasse form. Colour light-green, washed and waved with fawn and russet, becomes bright yellow at the time of maturity. Stem variable but rather long, sometimes fleshy, inserted in an uneven cavity. Calyx small, set in a deep narrow basin, surrounded by uneven protuberances. Flesh buttery, melting, very juicy, exceedingly fine, sugary and well perfumed. Ripening well through November. (L. E. Berckmans, Ms.)



Emilie d'Heyst.

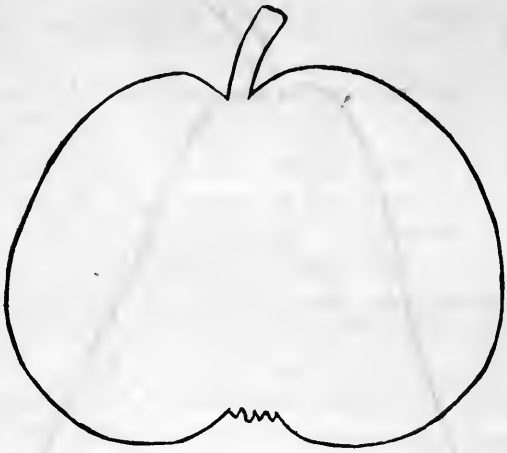
Emilie Bivort.

Dedicated by Bonvier to the daughter of the distinguished Belgian Pomologist A. Bivort.

Tree of slow growth, but very hardy, with reddish or light brown, upright, stout, short shoots.

Fruit medium, oblate, inclining to conic, very much depressed. Skin deep orange-yellow, much covered with russet. Stalk short and fleshy, inserted in a rather deep cavity, surrounded by protuberances. Calyx small, set in a deep well formed basin. Flesh yellowish, buttery, melting, abounding in rich sugary vinous juice, with a peculiar flavour, somewhat resembling

quince. Ripens October, November, and keeps well. (L. E. Berckmans, Ms.)



Emilie Bivort.

Esperine. Van Mons.

Beurre sprin.

Tree upright, vigorous, very productive.

Fruit medium, obovate, inclining to pyriform. Skin yellow with numerous brown dots and sometimes patches of russet. Stalk long, inclined, inserted by a lip in a slight depression. Calyx open, in a rather small shallow basin. Flesh white, juicy, melting, with a pleasant perfumed flavour. Core small. September and October.

Figue de Naples. Thomp.

Comtesse de Frénol. Beurré Bronzée.
De Vigne Pelone. Fig Pear of Naples. *Man.*

A very good, late autumn pear, but inferior to several others. It grows vigorously and bears well. A cooking fruit.

Fruit of rather large size, oblong-obovate. Skin nearly covered with brown, and tinged with red next the sun. Flesh buttery, melting, and agreeable. November.

Figue d'Alençon. Thomp.

Verte longue de la Mayenne. Figue d'Hiver.

This corresponds with Verte longue of Angers and probably may prove synonymous with it.

Fondante de Malines. Esperen.

Tree vigorous, but of moderate productiveness.

Fruit medium, roundish, turbinate, inclining to pyriform. Stalk stout, long, and curved, inserted in a small uneven depression, surrounded by russet. Calyx small, closed, set in a moderate uneven basin. Skin greenish, netted with russet, with a sunny cheek, becoming golden-yellow at maturity. Flesh fine, melting, juicy, sweet, slightly perfumed. October, November.

Fondante de Noel. Esperen. Al. Pom.

Belle de Noel. Belle apres Noel.

Tree vigorous and a good bearer, young wood fawn colonr.

Fruit medium, turbinate, or depressed pyriform. Skin yellow, often with a warm cheek, sprinkled with russet. Stalk long, stout, and curved, inserted by a fleshy ring or lip at a great inclination. Calyx firmly closed, set in a broad shallow irregular basin. Flesh juicy, with a sweet perfumed flavour. December, January.

Fondante Van Mons. Thomp.

An excellent melting pear, raised by Dr. Van Mons, and first introduced by Mr. Manning. It bears abundantly.

Fruit nearly of medium size, roundish, a little depressed. Skin pale yellow. Stalk stout, an inch and a half long, planted in a rather deep cavity. Calyx set in a pretty deep basin. Flesh white, juicy, melting, sweet, and of very agreeable flavour. First of November.

Fondante Agreeable.

Fruit medium, roundish, obovate. Colour dull yellowish-green, slightly russeted. Stalk planted at an inclination, and fleshy at its junction with the fruit. Flesh juicy and melting. Flavour very pleasant and refreshing, with a delicate aroma. Ripe last of August. (Wilder in Hort.)

Fondante du Comice, of Angers. Thomp. Comice, H. A.

Fruit large, pyramidal, truncate-pyriform. Skin yellow, with a warm cheek, inclining to russet, with russet dots. Stalk long and curved, inserted in a depression. Calyx small, closed, set in a rather deep, open basin. Flesh juicy, buttery, with a rich, sugary, vinous flavour. October, November.

Fondante des Pres. Van Mons.

A seedling of Van Mons'. Fruit medium, turbinate, inclining to pyriform. Stem of middling length, inserted in a corrugated cavity. Skin lemon yellow at maturity, with a few traces of russet, and a little red next the sun. Flesh white, melting, juicy. Flavour sweet and agreeable, with considerable aroma. October. (Wilder's Rept.)

Forelle. Thomp. P. Mag. Lind.

Forellen-birne. Poire Truite. Trout Pear.
Corail. Petit Corail.

This exquisitely beautiful German pear—called in that language Forellen-birne, *i. e.*, *trout pear*, from its finely speckled appearance, is one of the most attractive dessert fruits. It requires a warm soil and exposure, and well deserves to be trained as an espalier. Young shoots long, with few and dark coloured branches.

Fruit oblong-ovate, inclining to pyriform. Skin smooth, at first green, but when fully ripe, lemon yellow, washed with rich deep red on the sunny side, where it is marked with large, margined, crimson specks. Stalk about an inch long, rather slender, slightly curved, rather obliquely planted, in a shallow, uneven cavity. Calyx rather small, basin abruptly sunk. Flesh white, fine grained, buttery, melting, with rich, slightly vinous juice. Beginning of November, and may be kept, with care, till Christmas.

Fleur de Neige. Van Mons.

Snow Flower.

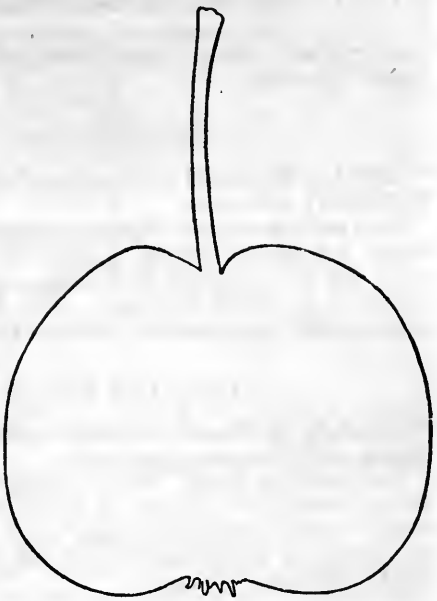
Fruit medium or above, tapering by a mamelon protuberance to its junction with the stem which meets it by a fleshy enlargement. Calyx small, partially closed, in a small, shallow basin. Surface very uneven. Colour yellowish green, mottled with thin russet. Flesh somewhat granular and coarse, but sweet and high flavoured. Ripens middle of October.

Florimont Parent. Bivort.

One of Van Mons' seedlings. Tree of moderate vigour and fertility.

Fruit very large, pyramidal, swelled towards its centre. Skin green, pointed and striped with brown russet; becomes deep yellow at maturity. Flesh coarse, melting, juicy, sugary, and agreeably perfumed. Ripe at the end of September. (Al. Pom.)

FULTON. Man. Ken.



Fulton.

This American pear is a native of Maine, and is a seedling from the farm of Mrs. Fulton, of Topsham, in that state. It is very hardy, and bears everyyear abundantly. Young shoots rather slender, and reddish-brown.

Fruit below medium size, roundish, flattened. Skin, at first, entirely gray-russet in colour, but at maturity of a dark cinnamon russet. Stalk one to two inches long, slender, planted in a narrow cavity. Calyx with long segments sunk in an uneven hollow. Flesh half buttery, moderately juicy, with a sprightly, agreeable flavour. Seeds compressed. October and November.

FRANKFORD.

Origin on the premises of Eli Merkins, near Frankford, Philadelphia. A new fruit, and said to be an acquisition. Size medium, roundish, sometimes inclining to pyriform, not unfrequently obovate. Skin yellow, containing many russet dots, especially towards the crown, and having occasionally a faint blush on the part exposed to the sun. Stalk rather short, thick, and fleshy at its termination, inserted in a small cavity. Calyx medium, open, set in a shallow, moderately wide basin. Flesh fine texture and buttery. Flavour exceedingly rich, with a delicious aroma. Quality, "best." November. (Int. Rept.)

FREDERIKA BREMER. Hort.

Introduced by J. C. Hastings of Clinton, Oneida Co., N. Y. Tree vigorous, young wood green.

Fruit above medium, irregularly obtuse, pyriform, sometimes

Bergamotte shaped. Skin greenish yellow. Stalk rather long and stout, inserted in a moderate cavity at an inclination by a lip or ring. Calyx small and closed, set in an abrupt basin. Flesh whitish, melting, buttery, sweet and vinous, slightly perfumed. October.

Gansel's Seckel.

Raised by Mr. Gansel of Pitmaston, England. Growth much like Seckel; productive.

Fruit medium or small, oblate, much depressed. Skin yellow, rough, and uneven, mostly covered with thin russet. Stalk short and stout, inserted in a broad, shallow cavity. Calyx closed, set in a broad, deep basin. Flesh coarse, buttery, juicy, melting, with a rich aromatic perfumed flavour. November.

Gansel's Late Bergamotte.

Raised by Mr. Gansel, of Pitmaston, England. Of vigorous growth, and a promising late fruit.

Fruit roundish, oblate. Skin greenish, rough, sprinkled with russet. Stalk much enlarged at its insertion in a pretty deep cavity. Calyx large, open, basin broad and shallow. Flesh juicy, granular, melting, sugary, and rich, highly perfumed with musk. December, January.

General Bosquet.

Fruit large, pyriform. Skin smooth, green, russet, spotted. Flesh tender, melting, first rate. Ripening in September. (Leroy's Cat.)

General Canrobert.

Fruit medium size, resembling St. Germain. Skin yellow, dotted, and spotted with russet. Flesh delicate, melting, ripening in January and February. (Leroy's Cat.)

General Lamoriciere. Hov. Mag.

Tree moderately vigorous, very productive.

Fruit medium, oval, inclining to ovate, remotely pyriform, tapering from centre towards base and crown. Skin russet, on greenish-yellow ground. Stalk long, curved, fleshy at its insertion in an inclined depression. Calyx open, its segments projecting, basin very small. Flesh fine, juicy, melting, with a very rich, brisk, sugary flavour and peculiar perfume. Imperfect specimens, astringent. October.

General Taylor.

Fruit below medium, turbinate, obscurely-pyriform, broad at the crown. Skin cinnamon russet, becoming fawn on the exposed side. Stalk rather short, cavity very small. Calyx partially closed, basin furrowed and not very deep. Flesh yellowish-white, granular, becoming buttery and melting. Flavour as high as the Seckel; aroma delicious. Maturity November. (Ad. Int. Rep.)

General de Lourmel.

Fruit medium size, resembling Doyenne. Skin greenish, irregularly spotted and dotted with russet. Flesh delicate, juicy, melting, sugary. Ripening in November (Leroy's Cat.)

Gerardin.

Fruit medium, roundish, somewhat irregular. Skin yellow, with many spots and patches of rough russet, and a reddish tint towards the sun. Flesh coarse, buttery, astringent, granular, tolerably good. September.

Gedeon Paridant. Van Mons.

Fruit medium, obtuse, pyriform. Skin greenish-yellow, with a brownish cheek. Stalk rather long, inserted in a small cavity. Calyx open, persistent. Flesh white, juicy, melting, sweet, brisk, and excellent. Ripe last of September.

Glou-morceau. Thomp. Lind.

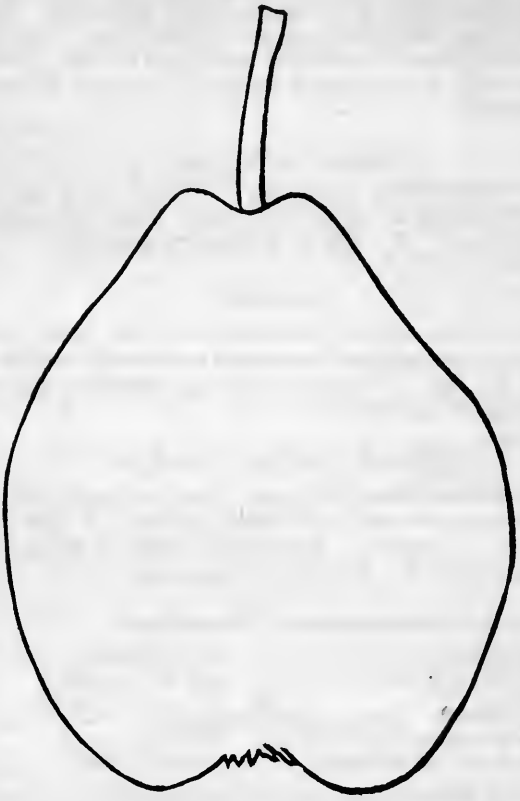
Gloux Morceaux,
Beurré d'Hardenpont,
Hardenpont d'Hiver,
Colmar d'Hiver,
Linden d'Automne,
Beurré d'Aremberg (*wrongly*)
} *of the French.*

Goulu Morceau,
Rol de Wurtemberg,
Kronprinz Ferdinand,
——— von Oestreich,
Beurre d'Cambron,
Got Luc de Cambron,
} *Germans.*

The Glou-morceau is universally admitted to be one of the best of the Flemish winter pears; and as it is perfectly suited to our climate, bearing excellent crops, it should have a place in every good garden. It has been confounded with the Beurré d'Aremberg, as has already been explained, but is readily distinguished from that pear, by its sweeter, more sugary flavour, more oval figure, and more slender stalk. The growth of the tree is also distinct, having dark olive shoots, spreading and declining in habit, with wavy leaves, and makes one of the finest pyramids, and succeeds well on the quince.

Much confusion has existed in reference to this pear; but it is now so well known by the above name, that we retain

it, although Beurré Hardenpont is the true name. It has long been and is still known in France as Beurré d'Aremberg, and in England as Beurré Kent.



Glou-morceau.

Fruit rather large, varying in form, but usually obtuse-oval. Skin smooth, thin, pale greenish yellow, marked with small green dots, and sometimes with thin patches of greenish-brown. Stalk rather slender and straight, an inch or more long, planted in a small, regular cavity. Calyx usually with open divisions, set in a moderately deep basin. Flesh white, fine grained, and smooth in texture, buttery, very melting, with a rich, sugary flavour, with no admixture of acid. Sometimes astringent in heavy soils. December.

Grand Soleil. Esperen.

Tree vigorous. Fruit variable in its form, generally turbinate-pyriform, of moderate size. Skin golden-yellow at maturity, and covered with russet fawn. Flesh half fine, half melting, juicy, sugary, vinous, perfectly perfumed. Ripe November, December.

Graslin. Thomp.

Tree vigorous, young wood greenish olive, very productive.

Fruit large, oval, obtuse, pyriform, its greatest diameter near the centre, from which it tapers to calyx and stem. Skin thick, green, and slightly sprinkled with russet. Stalk long, thick at its juncture with the fruit, inserted in a slight depression. Calyx open, segments stiff, basin abrupt and furrowed. Flesh whitish, coarse, a little granular, buttery, juicy, melting, with a fine rich vinous flavour. October, November.

Groom's Princess Royal. Thomp.

A new English fruit, raised by Mr. Groom, the famous tulip grower.

Fruit of medium size, roundish. Skin greenish-brown, with a tinge of brownish red, and some russet tracings. Stalk short and thick, set in a very trifling depression. Calyx small, open, set in a shallow basin. Flesh buttery, melting, a little gritty near the core, but sweet and high flavoured. January and February.

Grosse Marie. Van Mons.

Fruit medium, oblate-pyriform. Skin yellow, covered with cinnamon russet. Stalk inserted without depression. Calyx partially closed. Flesh juicy, tender, with a rich, perfumed flavour resembling Brown Beurré. October.

Gros Rousselet d'Aout. Van Mons.

Tree vigorous, of pyramidal form, very productive.

Fruit medium, pyriform. Skin green, becoming golden-yellow at maturity, shaded with russet and spotted with fawn. Flesh whitish, fine, melting, very juicy, sugary, vinous, deliciously perfumed. Ripens in August. (Al. Pom.)

Hacon's Incomparable. Lind. Thomp.

Downham Seedling.

An English fruit, raised by Mr. Hacon, of Downham Market, Norfolk. It is a hardy, productive tree, with rather depending

branches. Young shoots rather slender, diverging, olive-coloured.

Fruit rather large, roundish, inclining to turbinate. Skin slightly rough, pale, and dull yellowish-green, mixed with pale brown, sprinkled with numerous greenish-russet dots, and russet streaks. Flesh white, buttery, melting, with a rich vinous flavour. October and November.

Haddington.

Raised by J. B. Smith, Philadelphia.

Fruit above medium, obovate, or pyriform. Colour greenish-yellow, with a brownish cheek. Stalk slender, inserted in a small cavity. Calyx small, in a round, shallow basin. Flesh yellow, crisp, juicy, with an aromatic flavour. January till April. (Brinckle in Hort.)

Heggerman.

Originated at North Hempstead, Long Island. Tree of vigorous growth, an early bearer. Fruit of medium size, or below; much resembles in form and colour the Buffum. Flavour intermediate between the Seckel and white Doyenne, melting and delicious; must be eaten at precise periods of maturity. Ripens about the middle of September. (Wm. R. Prince.)

Hanover.

From Hanover Furnace, New Jersey.

Fruit below medium, roundish-obovate. Skin green, with dull green russet markings, and a brown cheek. Stalk medium, cavity shallow and angular. Calyx open, in an irregular basin. Flesh greenish-yellow, exceedingly melting and juicy. Flavour pleasant. Quality "good." Ripe October. (Ad. Int. Rep.)

Harvard. Man. Ken.

Boston Eparne. Cambridge Sugar Pear.

The Harvard produces enormous crops, which is of fair quality. The tree is remarkably hardy and vigorous, with upright shoots forming a fine head. It originated at Cambridge, Mass.

Fruit rather large, oblong-pyriform. Skin russety olive-yellow, with a brownish-red cheek. Stalk rather stout, inserted rather obliquely on the narrow summit or on a small cavity. Calyx set in a narrow basin. Flesh white, tender, juicy, and melting, of excellent flavour, but liable, if not picked early, to rot at the core. Beginning of September.

Hawe's Winter.

Origin, King and Queen Counties, Va., on the farm of the

Hawe's family. Tree vigorous and productive. Fruit large, roundish, slightly flattened. Colour at maturity dull yellow, with russet spots. Flesh a little coarse, very juicy, rich, sweet, vinous. November to January. (H. R. Roby, Ms.)

Heathcot. Man.

Gore's Heathcot. *Ken.*

The Heathcot originated on the farm of Governor Gore, in Waltham, Mass., by Mr. Heathcot, then a tenant; the original tree came into bearing in 1824. Young shoots upright, reddish-brown.

Fruit of medium size, regularly obovate. Skin pale greenish-yellow, with a very few dots, and a few russet streaks. Stalk an inch long, planted in a very small cavity. Calyx closed, and set in a rather narrow and shallow basin. Flesh white, buttery, and melting, moderately juicy, with an agreeable, vinous flavour. Middle and last of September.

Henkel.

One of Van Mons' seedlings, growth vigorous, upright, young. Wood, dull brown.

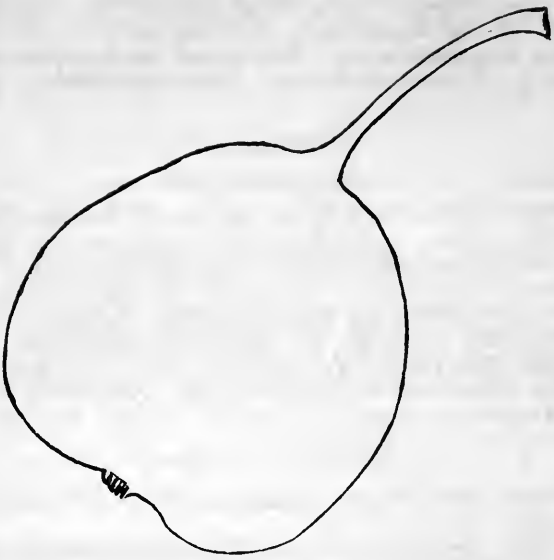
Fruit medium, obovate, uneven. Skin lemon-yellow, somewhat patched with cinnamon russet, specked with dull green. Stalk long, inserted in a small cavity. Calyx open, in a shallow uneven basin. Flesh yellowish, rather coarse, melting, and juicy. Flavour sprightly vinous, perfumed, and excellent. October. (Hov. Mag.)

Henry the Fourth. Lind.

Henri Quatre. *Thomp.* Jaquin.
Favori Musque du Conseiller. *Van Mons.* Beurré Ananas.
Poire Ananas.

This little pear, perhaps not very attractive in appearance, being small, and of a dull colour, is one of our greatest favourites as a desert fruit. It always bears well—often too abundantly. Young shoots diverging, yellowish-brown.

Fruit below medium size, roundish-pyriform. Skin pale greenish-yellow, dotted with small grey specks. Stalk rather more than an inch long, slender, bent, and obliquely planted on a slightly flattened prominence, or under a swollen lip. Calyx small, placed in a shallow abrupt basin. Flesh whitish, not very fine grained, but unusually juicy and melting, with a rich, delicately perfumed flavour. It should always be ripened in the house. Early in September.



Henry the Fourth.

HENRIETTA. Bouvier.

A beautiful tree of Belgian origin. Fruit small or medium, turbinate. Skin rough, almost entirely covered with russet Flesh white, half fine, melting, abounding in juice, sugary, agreeably perfumed. A very good fruit, ripening in November. (Al. Pom.)

HENRI BIVORT. Bivort.

Tree pyramidal. Fruit large, form of Doyenné. Skin smooth, green, strongly shaded with brown, becomes somewhat yellow at maturity. Flesh whitish yellow, very melting, half buttery, juicy, sweet, and deliciously perfumed. Ripe middle of September. Very good in Belgium, not proved here. (Al. Pom.)

HOSENSHENCK.

Shenk's.	Smokehouse.
Watermelon.	Butter Pear.

Origin, farm of John Shenck, Weaver Township, Pa. Tree vigorous and productive. Fruit variable, subject to be knotty, and imperfect unless well grown.

Fruit of medium size, roundish-oblate. Skin light yellowish-

green, rarely with a blush. Stalk about an inch long, rather stout, inserted without much depression, sometimes by a lip. Calyx large, basin deep. Flesh rather coarse, tender, juicy, melting, with a pleasant flavour. Ripens the last of August.

Hénrietta.

Raised by Gov. Edward, of New Haven, Conn. Tree a free grower, of upright form, a good bearer, young wood reddish-brown.

Fruit medium, obovate, inclining to pyriform. Skin yellow, with a dull crimson cheek covered with minute grey dots. Stalk rather long, curved, cavity small and abrupt. Calyx closed, segments long, basin shallow and corrugated. Flesh whitish, juicy, melting, sugary, vinous, and rich; slightly aromatic. Ripe middle of September; does not keep long after it is ripe.

Hericart. Van Mons.

A second-rate Belgian pear, with a pleasant, perfumed juice, ripening early in Autumn.

Fruit of medium size, obovate, often rather oblong and irregular. Skin yellow and russety. Stalk an inch or more long, rather slender, set in a small cavity. Calyx set in a shallow basin. Flesh white, fine grained, buttery, not rich, but with a delicate, peculiar aroma, gritty and slightly astringent. The fruit ripens the last of September.

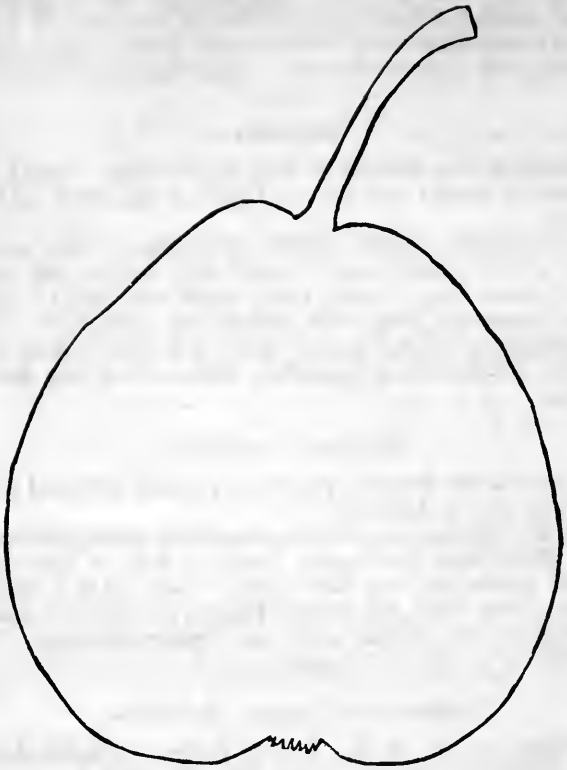
Hericart de Thury. Van Mons.

Raised by Van Mons. A good grower, of peculiar habits and appearance, rather pyramidal, but with diverging crooked limbs of a deep brown or purple hue. Not an early nor a very profuse bearer.

Fruit pyramidal, turbinate. Skin rather rough, with a decided cinnamon color. Stalk long, and curved, inserted in a small abrupt cavity. Calyx closed, deeply sunk, basin uneven. Flesh yellowish, compact, buttery, sufficiently juicy, with a peculiar rich flavour. January and February. (L. E. Berckman's Ms.)

Hovey.

Raised by André Leroy, and dedicated to C. M. Hovey. Fruit medium size, pyriform, regular; resembles the Beurré capiamont. Skin fair, smooth, yellow, speckled and dotted around the eye, the calyx at outside. Stem about an inch long, obliquely inserted. Flesh yellow, melting, juicy, sugary, perfumed, and vinous. (Leroy's Cat.)



Howell Pear.

HOWELL.

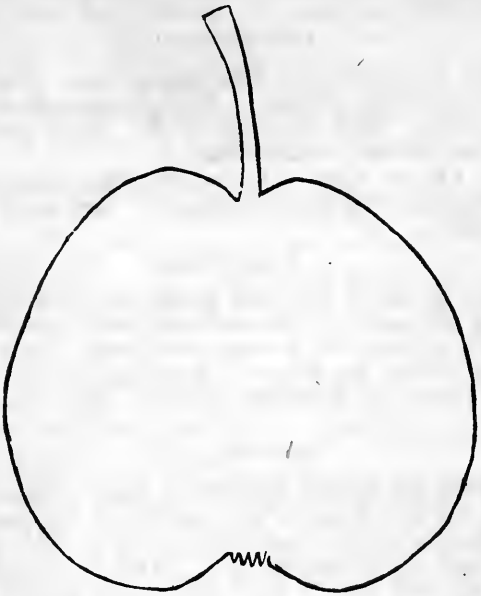
Raised by Thomas Howell, of New Haven, Conn., and gives promise of being a valuable variety.

Tree an upright and free grower, young shoots dark maroon, an early and profuse bearer. Fruit rather large, oval, or obtuse-pyriform. Skin light waxen-yellow, often with a finely shaded cheek, thickly sprinkled with minute russet dots, and some russet patches. Stem long and stout, fleshy at its insertion in a moderate uneven cavity. Calyx open, basin shallow. Flesh white, rather coarse and granular, with a rich, perfumed, aromatic flavour. When in perfection, best, but variable. Ripe from middle of September to middle of October.

HULL.

Origin Somerset, Mass. Tree vigorous, upright. Fruit me-

dium, obtuse-pyriform. Skin pale-yellow, thickly sprinkled with russet specks, having a warm cheek. Flesh juicy, fine, sweet, and pleasant. October.



Huntington Pear.

Huntington.

Origin New Rochelle, and brought to our notice by T. R. Carpenter. It was found in the woods a few years since by Mr. Huntington, and now stands in his grounds. Tree vigorous, forming a pyramid, an early and profuse bearer.

Fruit nearly medium in size, roundish, obconic, truncate, sometimes oblate. Skin rough-yellow, often shaded with crimson, thickly covered with grey and crimson dots, and russet patches. Stalk medium or long, nearly straight, cavity broad and uneven. Calyx open, segments stiff, basin broad and open. Flesh white, very juicy, melting, buttery, with a very sweet, vinous flavour, delicately perfumed. A very delightful pear, of the highest promise. Ripe middle of September, and continues in use three or four weeks.

Inconnue Van Mons. Thomp.

Tree vigorous, upright, very productive. Fruit medium, conic, obscurely-pyriform. Skin rough, green, becoming yel-

lowish, sprinkled with russet. Stalk rather long, curved, inserted in a slight cavity, at an inclination. Calyx open, basin small, uneven. Flesh coarse, juicy, melting, sweet, and rich. December to February.

Ives' Seedling.

Raised by Dr. Eli Ives, New Haven, Conn. Fruit nearly medium, somewhat globular. Skin greenish-yellow, shaded with crimson. Stalk short and thick. Calyx small, nearly closed, basin shallow, and irregular.

Flesh whitish, coarse and granular, juicy, melting, with a refreshing sugary flavour well perfumed. Ripe about the first of September.

Ives' Pear.

Raised by Dr. Eli Ives, New Haven, Conn. Tree vigorous and very productive. Fruit small, irregularly turbinate, inclined. Skin greenish, with a brownish-red cheek. Stalk long, inserted by a fleshy ring or lip. Calyx open, basin very small.

Flesh juicy, melting, sugary, and good. Ripens first of September.

Ives' Bergamot.

Raised by Dr. Eli Ives, New Haven, Conn. Tree closely resembles the Seckel, and is very productive. Fruit medium or small, Bergamot-shape, protuberant at calyx. Skin greenish-yellow, with slight traces of russet. Stalk short and thick, inserted by a ring or lip. Flesh rather coarse, buttery, melting, juicy, with a Gemsel's Bergamot flavour. Ripens first of September.

Ives' Vergelieu.

Raised by Dr. Eli Ives, of New Haven. Fruit below medium, pyriform, broad at calyx. Skin greenish, shaded with dull crimson. Stalk inserted by a lip. Calyx open, basin shallow and irregular. Flesh whitish, rather coarse and granular, buttery, juicy, and melting, with a sweet, rich, refreshing vinous flavour. October.

Jackson.

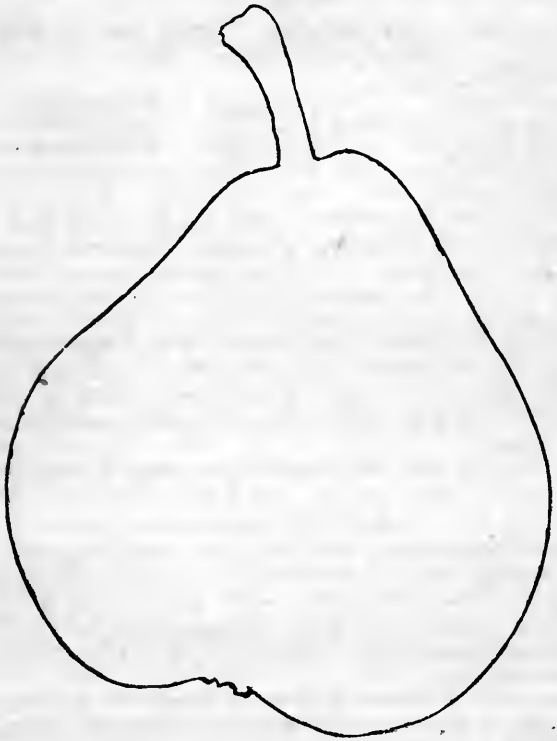
Origin New Hampshire. Tree vigorous and productive. Fruit medium, oblate, short pyriform or turbinate. Skin greenish-yellow, somewhat russeted. Stalk long and curved, fleshy at its junction, inserted in a slight cavity. Calyx small and open, set in a rather deep abrupt basin. Flesh white and juicy, flavour brisk and vinous. Ripens the last of September.

Jalousie de Fontenay Vendée. Man in H. M.

This excellent French pear, was imported from Vilmorin, of

Paris. It is greatly superior in flavour to the old Jalousie. Young shoots upright, long, brownish-yellow.

Fruit of medium size, turbinate, or obtuse-pyriform. Skin dull-yellow and green, considerably marked with russet patches and dots, and tinged with a red cheek. Stalk about an inch long, set obliquely, without depression on an obtuse point. Calyx with closed and stiff segments, set in a shallow, round basin. Flesh white, buttery, melting, with a rich flavoured juice. First of October.



Jaminette.

JAMINETTE. Thomp.

Sabine.	*Nois. and the Frech gardens.*	Josephine.
D'Austrasie.		Colmar Jaminette.
Beurre d'Austrasie.		
Wilhelmine.		

Raised by M. Jaminette of Metz, very productive, and in favourable seasons an excellent winter fruit.

Fruit of medium or large size, varying in form, but mostly obovate, a good deal narrowed at the stalk. Skin clear green, paler at maturity, considerably marked with russety brown, especially near the stalk, and sprinkled with numerous brown dots. Stalk scarcely an inch long, rather thick, and obliquely planted, without any depression. Calyx open and firm, set in a basin of moderate depth. Flesh white, a little gritty near the core, but very juicy and buttery, with a sugary, aromatic-almond flavour. November to January,

JARGONELLE, (of the English). Thomp. Lind. P. Mag.

Epargne. *O. Duh. Poit. Pom. Man.*
Grosse Cuisse Madame.
Beau Présent.
Poire de tables des princes.
Saint Sampson.
Saint Lambert.
Belle Verge.
} *of various French gardens.*
Frauenschenkel.
Real Jargonelle.
Sweet Summer.

This fruit, the true Jargonelle pear, was for a long time considered the finest of Summer pears, and Thompson yet says, "the best of its season." We think, that no man will hesitate, however, to give the most decided preference to our native sorts, the Bloodgood, and Dearborn's Seedling. It is still, however, one of the most common fruits in the New York market, partly, because it bears abundant crops, and partly, because these superior new sorts, have scarcely yet had time to displace it. We consider it only a second-rate fruit, and one that quickly decays at the core.

Fruit pretty large, long pyriform, tapering into the stalk. Skin greenish-yellow, smooth, with a little brownish colour on the sunny side. Stalk nearly two inches long, rather slender, curved, obliquely set. Calyx open, with quite long projecting segments, and sunk in a small and furrowed basin. The flesh is yellowish-white, rather coarse-grained, juicy, with a sprightly refreshing flavour. The tree is a strong grower, with a rather straggling, pendant habit. Ripens the last of July and first of August.

The common CUISSE MADAME of the French authors and gardens, is an inferior and smaller variety of Jargonelle, not worth cultivating.

JARGONELLE, (of the French.) Thomp.

Bellissime d'Eté. *O. Duh. Nois.*
Suprême.
Bellissime Suprême.
Bellissime Jargonelle.
Vermillion d'Eté.
Chaumontelle d'été.
} *of French gardens.*
Red Muscadel. *Lind. Mill.*
Sabine d'Eté.
Summer Beauty. *Pom. Man.*
English Red Cheek.
Red Cheek.
} *of many American gardens.*
Udal.

This, which Mr. Thompson calls, by way of distinction, the

French Jargonelle, because it is most commonly received under that name from France, is a higher coloured and handsomer fruit than the English Jargonelle, though much inferior in quality, and, in fact, lasts only a day or two in perfection, and is often mealy and over-ripe, while the exterior is fair and tempting.

The tree is of very strong, upright growth. Fruit of medium size, obovate in form. Skin shining, light green, becoming lemon colour, with a very rich, deep red cheek. Flesh white, coarse, breaking, sweet, and soon rots at the core. Ripens the last of July and first of August.

Jean de Witte. Van Mons.

Fruit of medium size, flattened, obovate. Stalk short, rather on one side, inserted in a slight depression. Calyx closed, set in a very shallow cavity. Skin yellowish-green, speckled, striped, and blotched with russet. Flesh white, juicy, melting, sweet, and rich. Ripe December. (Hov. Mag.)

Jersey Gracioli.

Gracioli of Jersey.

Tree moderately vigorous and productive.

Fruit medium, oblate, obconic. Skin rough, greenish, covered with russet patches and dots. Stalk large, of medium length, inserted at an inclination in a very slight cavity. Calyx set in a moderately open, uneven basin. Flesh juicy, nearly melting, with a brisk, rich, vinous flavour; very little gritty at the core. Strongly resembles Gansel's Bergamot in appearance and flavour, but more delicate. September, October.

Johonnot. Man.

Originated in the garden of George S. Johonnot, Esq., of Salem, Mass.

The fruit is of medium size, of a roundish and peculiar irregular form. Skin very thin, dull yellowish. Stalk short and thick, planted by the side of a swollen protuberance. The flesh is melting, buttery, and very good. The tree is not very vigorous, but it bears good crops, and is in perfection from the middle of September to the middle of October.

Jones' Seedling.

Origin Kingsessing, near Philadelphia.

Fruit medium or below, pyriform, broad at calyx, tapering to the stem, which meets it by a fleshy junction. Skin yellow, shaded with russet; bright cinnamon on the sunny side. Calyx open, in a broad, shallow, uneven basin. Flesh coarse, granular, buttery, sugary, brisk, and vinous. October.

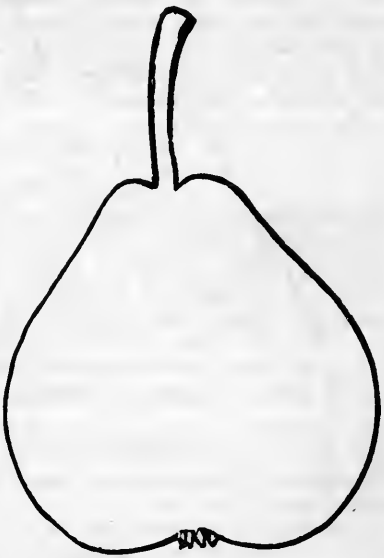
JOSEPHINE DE MALINES. Esperen. Al. Pom.

Tree vigorous and productive, forming a beautiful pyramid.

Fruit medium, somewhat turbinate, very much flattened. Skin yellowish, slightly sprinkled with russet, and thickly covered with russet dots. Stalk long and fleshy, inserted in a moderate cavity, always surrounded by russet. Calyx open, set in a broad, shallow basin. Flesh greenish, buttery, juicy sugary, and perfumed. November to February.

JULIENNE. Coxe. Man.

A handsome summer pear, which so much resembles the Doyenné or St. Michael, as to be called, by some, the Summer St. Michael. It is a beautiful and most productive fruit, and comes into bearing very early. It is often of excellent flavour, and of the first quality; but, unfortunately, it is variable in these respects, and some seasons it is comparatively tasteless and insipid. In rich, warm, and dry soils it is almost always fine. It is a profitable market fruit, and will always command a prominent place in the orchard.



Julienne.

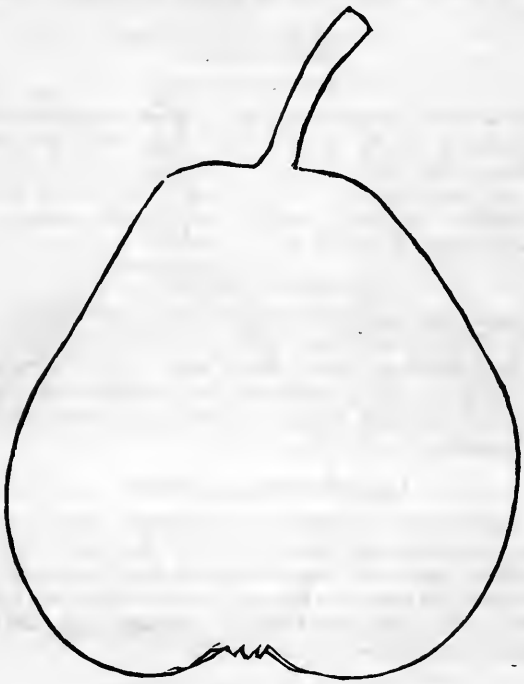
The tree is of thrifty upright growth, with light yellowish-brown shoots.

Fruit of small size, but varying in different soils; obovate, regularly formed. Skin very smooth and fair, clear bright yellow, on all sides. Stalk light brown, speckled with yellow, a little more thon an inch long, pretty stout, inserted in a very shallow depression. Calyx open, set in a basin slightly sunk, but often a little plaited. Flesh white, rather firm at first, half buttery, sweet, and moderately juicy. Ripens all the month of August. Succeeds well at the South.

JULES BIVORT. Al. Pom.

Raised by Alexander Bivort. Tree moderately vigorous, very productive.

Fruit large, oval, truncate, conic. Skin cinnamon russet on yellow ground, thickly sprinkled with minute grey dots. Stalk long, inserted at an inclination in a broad depression. Calyx open, set in a small, shallow basin. Flesh firm, juicy, melting, with a sugary vinous flavour; finely perfumed. Oct. Nov.



Kingsessing.

KINGSESSING. Brinckled in Hort.

Leech's Kingsessing.

Originating in the family burying-ground of Isaac Leech, near Philadelphia. Tree upright and of vigorous growth, with light yellowish-green shoots.

Fruit large, obtuse-pyriform, or truncate-conic. Skin greenish-yellow, thickly sprinkled with minute green or grey dots. Stalk medium or long, curved, and fleshy at its insertion in a broad, uneven cavity. Calyx closed, set in a shallow, irregular

basin. Flesh whitish, somewhat coarse and granular, juicy, buttery and melting, with a sweet, rich, perfumed flavour. September.

La Hérard. Van Mons, 1825.

Fruit above medium, obovate, obtuse-pyriform. Calyx closed, deeply sunk. Stalk rather stout and long, in a depression. Colour pale lemon-yellow, with a brownish-red cheek next the sun. Flesh white, melting, juicy; flavour rich, pleasant sub-acid; excellent. Ripens first to middle of October. (Wilder in Hort.)

Las Canas.

Bon Parent. Bouvier.

Fruit medium, elongated turbinate, or acute-pyriform, insensibly joining the fleshy insertion of the stem which is nearly an inch long. Skin greenish-yellow, with numerous brown dots and a few russet patches. Calyx small, open, set in an even, russet basin. Flesh white, buttery, juicy, sweet, aromatic, somewhat astringent. October.

La Juive. (Esperen.)

A vigorous pyramidal tree, branches long and bright.

Fruit medium, turbinate. Skin marbled with brown and green, brightly shaded on the sunny side. Stalk long, inserted in a small cavity. Calyx irregular, set in a slight basin. Flesh half fine, melting, juicy, sugary; pleasantly perfumed; first quality. November. (Al. Pom.)

Laure de Glymes. Bivort.

A tree of moderate growth, but productive. Fruit medium, or large, turbinate, oval, pointed towards the stem. Skin very rough, light green, but becomes almost entirely covered with russet and light orange in the sun. Flesh white, half buttery, melting, juicy, sugary, and highly perfumed. Ripe middle of September to middle of October. (Al. Pom.)

Leopold I. Bivort.

Tree of moderate vigour. Fruit large, turbinate, pyriform. Skin smooth, green, spotted with brown russet. Flesh whitish-yellow, melting, buttery, juicy, sweet, and strongly perfumed. Ripens the middle of December, and keeps till January. (Al. Pom.)

Leon le Clerc. Louvain.

Tree of moderate growth, very productive.

Fruit large, pyriform. Skin russet, on greenish-yellow ground. Stalk long and curved, inserted in a slight cavity by

a lip. Calyx open, basin shallow. Flesh white, juicy, buttery, melting, rich, and exceedingly sugary. October, November.

Lenawee.

Origin uncertain, grown at Adrian, Michigan, and introduced by Dr. D. K. Underwood of that place, and description made by T. M. Cooley.

Fruit medium to large, ovate-pyriform, generally more or less one-sided, surface frequently irregular. Skin lemon yellow, with small russet specks, and a lively vermilion cheek in the sun. Stalk an inch long, curved, inserted without depression, sometimes below a fleshy protuberance. Calyx small, set in a shallow basin. Flesh yellowish white, tender, buttery, with a high and quite peculiar aromatic flavour. Ripens first to middle of August.

Lewis. Man. Ken. Thomp.

This is an excellent winter pear, originated on the farm of Mr. John Lewis, of Roxbury, and was first discribed and brought into notice by that veteran and zealous amateur of fruits, Samuel Downer, Esq., of Dorchester, near Boston. It bears enormous crops; indeed, this is the chief fault of the tree, and the soil should therefore be kept rich, or the pears will necessarily be small. The fruit has the good quality of adhering closely to the tree, is not liable to be blown off or injured by early frosts, and should be allowed to remain on till late in the season. The tree grows vigorously, and has long, drooping branches, of dark olive colour.

Fruit scarcely of medium size, obovate. Skin thick, dark green in autumn, pale green at maturity, with numerous russety specks. Stalk long and slender, inserted nearly even with the surface. Calyx large, with white spread divisions, basin almost level. Flesh yellowish-white, rather coarse grained, melting, juicy and rich in flavour, with a slight spicy perfume. November to February.

Liberale. Hov. Mag.

Fruit rather large, elongated, truncate-pyriform. Skin greenish-yellow, sprinkled with brown or russet, and having patches of russet. Stem long, curved, inserted in a cavity at an inclination. Calyx large and open, basin broad and shallow. Flesh juicy, melting, sweet, rich, and peculiarly aromatic. October.

Lieutenant Poitevin.

Fruit of large size, resembling in colour Glout Morceau. Skin yellow, netted and spotted with russet. Flesh white, juicy, half melting. Ripe from February to April. (Leroy's Cat.)

Limon. Van Mons. Man. in H. M.

No. 10. Van Mons. Beurre Hagerston.
Bergamotte Louise.

A fine, sprightly, Belgian pear, originated by Van Mons. The young shoots are long, slender, reddish brown.

Fruit rather small, obovate. Skin smooth, yellow, with a faint red cheek. Stalk an inch and a half long, rather stout, set in a moderately depressed, round cavity. Calyx set in a rather shallow, round basin. Flesh white, buttery, melting and juicy, with a sprightly, high flavour. Middle of August.

Lodge. Ken.

Smith's Bordenave.

The Lodge Pear is a native of Pennsylvania, and is understood to have originated near Philadelphia. It is a very agreeable subacid pear, and has so much of the Brown Beurre character, that we suspect it is a seedling of that fine old variety.

Fruit of medium size, pyriform, tapering to the stem, and one-sided. Skin greenish-brown, the green becoming a little paler at maturity, and much covered with patches of dull russet. Stalk an inch and a fourth long, obliquely planted at the point of the fruit, which is a little swollen there. Flesh whitish, a little gritty at the core, which is large, juicy, and melting, with a rather rich flavour, relieved by pleasant acid. September and October.

Louis Dupont. Durieux.

Tree vigorous and beautiful, promises to be fertile.

Fruit sufficiently large, sometimes in the form of Doyenné, but ordinarily longer and more turbinate. Skin smooth, dull green, passing to yellow at maturity, strongly shaded with fawn russet, sometimes striped and marbled. Flesh white, half fine, melting, juicy, sweet, and perfumed; a fruit of first quality, ripening towards the end of October. (An. Pom.)

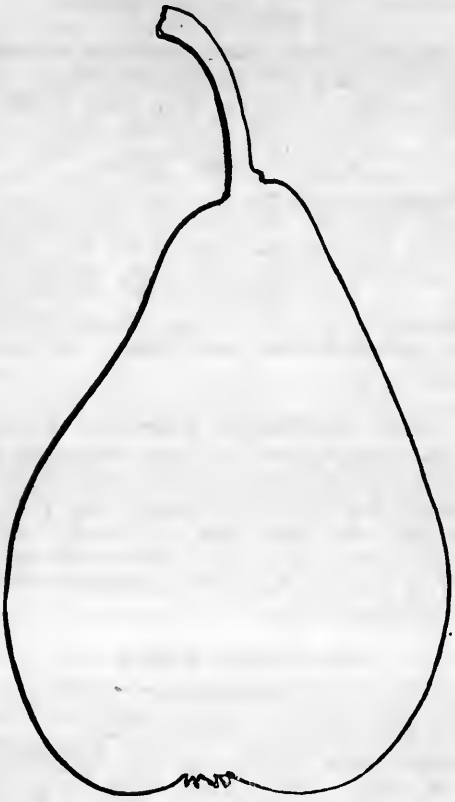
Louise Bonne of Jersey. Thomp.

Bonne de Longueval. Louise Bonne de Jersey.
Louise Bonne d'Avranches. Beurré or Bonne Louise d'Araudoré.
William the Fourth.

Originated in France, near Avranches, succeeds admirably on the quince, forming or fine pyramid—not of the first quality, but profitable. Tree vigorous, upright, very productive; fruit of better quality on the quince than on the pear.

Fruit large, pyriform, a little one-sided. Skin smooth and glossy, pale green in the shade, but overspread with brownish

red in the sun, and dotted with numerous gray dots. Stalk about an inch long, curved, rather obliquely inserted, without



Louise Bonne of Jersey.

depression, or with a fleshy, enlarged base. Calyx open, in a shallow, uneven basin. Flesh greenish white, very juicy and melting, with a rich and excellent flavour. September and October. [This is very distinct from the old Louise Bonne, a green winter fruit, of third quality.

Madame Millet.

Fruit very much resembling grey Beurre as to form and colour, and the Urbaniste as to qualities. Flesh white, delicate, fine, half melting, sugary and agreeably perfumed, ripening in March and April. (Leroy's Cat.)

Madame Ducar. Esperen.

Tree pyramidal, very vigorous, very productive.

Fruit medium, oval, lightly depressed at base and crown. Skin smooth, bright green, becoming yellow at maturity. Flesh white, half fine, very juicy, sugary, and slightly perfumed. Ripens the middle of August. (Al. Pom.) Very good in Belgium.

Madame Eliza. Bivort.

Tree vigorous, wood stout.

Fruit large, pyriform. Skin smooth, bright green, and becomes almost yellow at maturity. Flesh rosy, fine, buttery, melting, abounding with sweet juice, very agreeably perfumed. November. (Al. Pom.) Excellent in Belgium, promising well here. The tree is hardy, but has an awkward, rather crooked, and declining habit, and very narrow leaves. The young shoots are olive gray.

Malconaitre d'Haspin.

Fruit large, form roundish, obovate. Stalk one inch long, inserted in a slight depression. Calyx closed, set in a rather deep, irregular basin. Skin dull yellow, with a brownish red cheek, stippled with coarse dots, and russeted at the calyx. Flesh juicy, tender, and melting. Flavour rich subacid, perfumed. Tree vigorous, hardy, and productive. October, November. (Wilder's Rep.)

Martha Ann.

Dana's No. 1.

Raised by Francis Dana of Roxbury, Mass.

Fruit medium size, elongated, obovate. Skin smooth, yellow, with yellow specks. Calyx closed. Flesh white, juicy, tender, very pleasantly subacid. November. (Hov. in Mag.)

Marie Parent. An. Pom.

Raised by Bivort. Tree moderately vigorous.

Fruit large, pyriform; surface uneven. Stalk short, inclined. Calyx in a large furrowed cavity. Skin golden yellow at maturity. Flesh white, very fine, melting, somewhat buttery, very juicy, sugary, and deliciously perfumed. October. (An. Pom.)

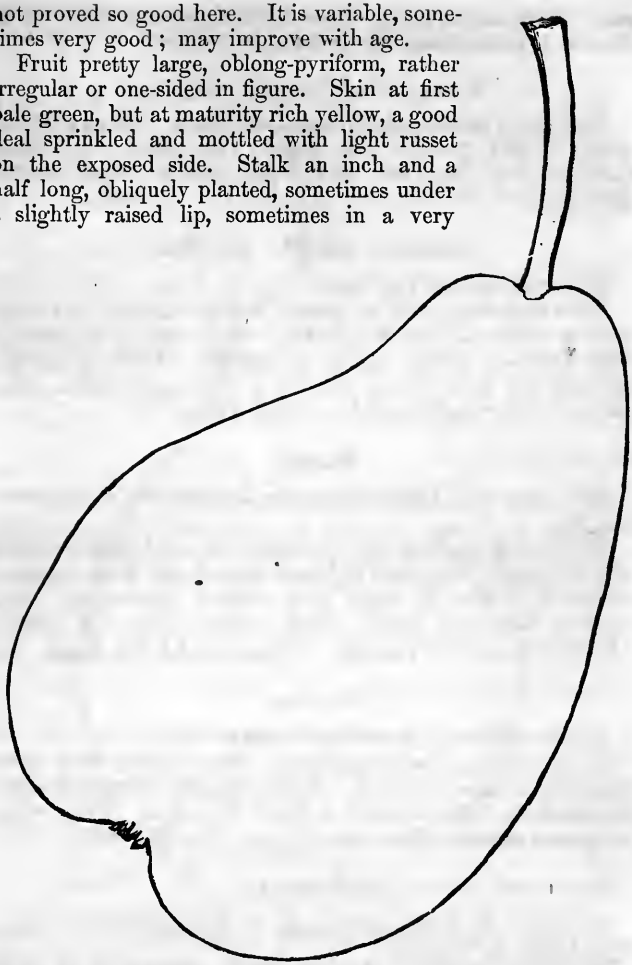
Marie Louise. P. Mag. Lind. Thomp.

Forme de Marie Louise. Princesse de Parme.
Marie Chrétienne. Braddick's Field Standard.

A Belgian variety of first quality in its native country, but has

not proved so good here. It is variable, sometimes very good; may improve with age.

Fruit pretty large, oblong-pyriform, rather irregular or one-sided in figure. Skin at first pale green, but at maturity rich yellow, a good deal sprinkled and mottled with light russet on the exposed side. Stalk an inch and a half long, obliquely planted, sometimes under a slightly raised lip, sometimes in a very



Marie Louise.

small, one-sided cavity. Calyx small, set in a narrow, somewhat plaited basin. Flesh white, exceedingly buttery and melting, with a rich, saccharine, and vinous flavour. Last of September and middle of October.

Maréchal Pélissier.

Fruit of medium size, ovoid. Skin yellow, and reddish in the

sun. Flesh tender, juicy. Ripening in September and October. Tree very productive. (Leroy's Cat.)

Marianne de Nancy. Al. Pom.

Fruit large, pyramidal, inclining to pyriform. Skin yellowish-green, thickly covered with brown and green dots. Stem medium; calyx large and open; basin shallow. Flesh coarse, granular, juicy, and from young trees poor. November.

Maréchal Dillen. Van Mons.

Tree vigorous and very fertile.

Fruit very large, very inconstant in form, varying from turbinate to ovoid and almost cylindric. Skin pale green, mottled with fawn and yellow slightly at maturity. Flesh white, fine, melting, and buttery, and abounds in very sugary juice. Ripe last of October and November. (An. Pom.)

Mather.

Originated with John Mather, near Jenkinstown, Montgomery Co., Pa.

Fruit below medium size, obovate. Skin red, with occasionally a mottled cheek, and russeted around the stem, which is obliquely inserted by fleshy rings without depression. Calyx medium, basin very small. Flesh a little coarse, but buttery. Flavour delicate and pleasant. August. (Ad. Int. Rep.)

Maynard.

Origin unknown; grown in Lancaster Co., Pa.

Fruit medium, obovate-pyriform. Skin yellow, with russet dots and a crimson cheek. Stalk obliquely inserted, fleshy at its junction. Calyx open, in a slight depression. Flesh white, juicy, and sugary. Ripe last of July. (Dr. Eshleman.)

McLaughlin.

A native of Maine, introduced by S. L. Goodale of Saco Tree hardy and vigorous.

Fruit large, elongated, obtuse-pyriform. Skin rough, greenish, mostly covered with russet, which becomes yellowish at maturity, with a warm sunny cheek. Stalk short, inserted at an inclination, with some appearance of a lip. Calyx open, set in a shallow, corrugated basin. Flesh whitish, not very fine, juicy and melting. Flavour sweet, rich, and perfumed. November to January.

Meriam.

Origin, Roxbury, Mass. Tree vigorous and very productive.

Fruit large, roundish, somewhat flattened at base and crown. Skin smooth, dull yellow, covered with pale russet around the stem and calyx, and entire surface somewhat netted with russet. Stem short, moderately stout, in a small cavity with one protuberant side. Calyx closed, basin shallow and furrowed. Flesh yellowish, coarse, melting, and juicy. Flavour sugary, sprightly perfumed, excellent. September, October. (Hov. Mag.)

Mignonne d'Hiver. Bivort.

Fruit medium, obovate, inclining to pyriform. Skin very rough, russet. Stalk stout, inserted by a lip, often at a great inclination. Calyx partially closed, set in a small basin. Flesh yellowish, juicy, granular, nearly melting, brisk sweet, and rich, slightly astringent. November.

Millot de Nancy. Van Mons.

A pyramidal tree, very fertile, producing at the same time at the extremity of its branches and its long sprus.

Fruit small or medium, regularly pyriform. Skin smooth, light green, becoming yellow a long time before its maturity. Flesh whitish yellow, buttery, melting, not deficient in juice, sugary, and very agreeably perfumed. October, November. (A. Pom.)

Mitchell's Russet.

Origin Belleville, Illinois. Fruit medium or small, obovate, inclining to conic. Skin rough, dark russet, thickly covered with grey dots. Stalk long, inserted in a small cavity by a ring or lip. Calyx open, basin uneven. Flesh juicy, melting, rich, highly perfumed. November.

Monseigneur Affre. Bivort.

Fruit medium, roundish, somewhat angular. Skin rough, greenish, considerably covered with thick russet, and thickly sprinkled with russet dots. Stalk long, curved, inserted in a moderate cavity. Calyx small, open, persistent, basin broad. Flesh white, rather coarse, granular, rich and perfumed. November.

Moyamensing.

Origin in the garden of P. B. Smith, Philadelphia, Moyamensing District. Tree vigorous and productive. Fruit medium, irregular, obovate, knobbed and rough. Colour light yellow, covered with minute grey dots. Stalk fleshy, of medium length, and inserted by rings in a small cavity. Calyx closed,

set in a rather deep corrugated basin. Flesh white, sweet, slightly breaking, moderately juicy. Ripe August, September. (Brinckle in Hort.)

Muscadine.

The Muscadine is remarkable for its high musky aroma. Its history is uncertain, and it is believed to be a native. It bears very heavy crops, and if the fruit is picked, and ripened in the house, it is a good pear of its season.

Fruit of medium size, roundish obovate, regularly formed. Skin pale yellowish-green, a little rough, thickly sprinkled with brown dots. Stalk about an inch long, set in a well formed, small cavity. Calyx with reflexed segments, set in a shallow basin. Flesh white, buttery and melting, with an agreeable, rich musky flavour. Last of August and first of September. Shoots stout, dark grey-brown.

Muskingum.

Origin doubtful. Tree very vigorous, upright.

Fruit medium, roundish. Skin greenish-yellow, much dotted with russet and green. Stalk long, cavity small. Calyx open, basin very shallow. Flesh melting, with a pleasant, brisk flavour, perfumed. Ripe middle and last of August.

Napoleon. Liard.

Medaille.
Sucrée Dorée, (*of some.*)
Roi de Rome.
Charles d'Autriche, } *incorrectly*
Wurtemberg, } *of some.*
Poire Liard.

The Napoleon is hardy, thrifty, and bears abundant crops, even while very young. In poor soils, or in unfavourable exposures only, it is astringent. The leaves are broad and the shoots are upright, and olive-coloured.

It was raised from seed in 1808, by M. Liard, gardener at Mons.

Fruit pretty large, obtuse-pyriform. Skin smooth, clear green at first, but becoming pale yellowish-green at maturity. Stalk varying from half an inch to an inch long, pretty stout, set in a slight depression or under a swollen lip. Calyx set in a basin of moderate deptb. Flesh white, melting, remarkably full of juice, which is sweet, sprightly and excellent. Should be ripened in the house, when it will be fit for use in September, and may be kept for weeks.

Niell. Thomp. Van Mons.

Beurre Niell. *Man in H. M.*
Poire Niell. *Lind.*
Colmar Bosc.
Fondante du Bois, *incorrectly of some.*

A large and handsome Belgian variety, raised by Van Mons,

from seeds sown in 1815, and named in honour of Dr. Niell, of Edinburgh, a distinguished horticulturist and man of science. The tree bears plentifully. Its quality is not yet fully ascertained, but specimens obtained here promise well. Young wood stout, diverging, grey.

Fruit large, obovate, inclining to pyriform, rather shortened in figure on one side, and enlarged on the other—tapering to the stalk, which is about an inch long, obliquely planted, with little or no cavity. Skin pale yellow, delicately marked with thin russet, finely dotted, and sometimes marked with faint red. Flesh white, buttery, sweet, with a plentiful and agreeable juice. Last of September.

Ne Plus Meuris. Thomp.

This is a Belgian pear, one of Dr. Van Mons' seedlings, named in allusion to Pierre Meuris, his gardener at Brussels. The tree grows upright, has short-jointed, olive-coloured shoots.

Fruit medium or rather small, roundish, usually very irregular, with swollen parts on the surface. Skin rough, dull yellowish-brown, partially covered with iron-coloured russet. Stalk quite short, set without depression, in a small cavity. Flesh yellowish-white, buttery, melting, with a sugary and agreeable flavour. January to March.

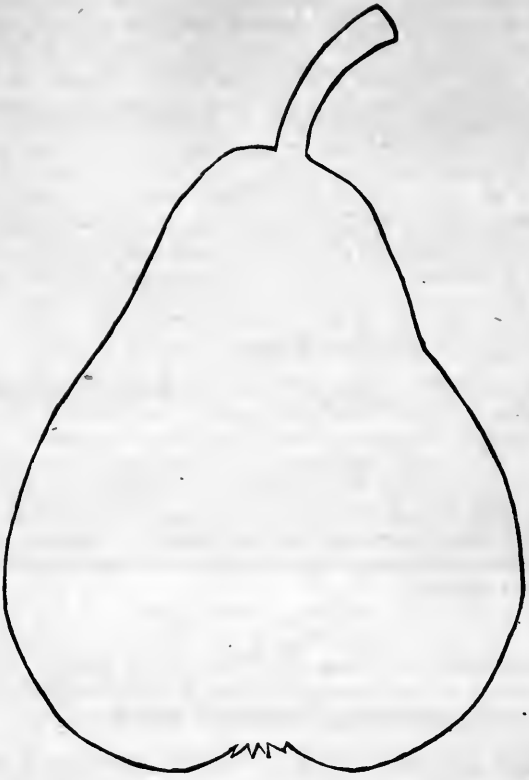
Niles?

A foreign variety imported by John M. Niles, Hartford, Conn. The original name having been lost, it has not yet been identified.

Fruit large, obtuse, pyriform. Colour yellow at maturity, thickly covered with russet dots. Stalk long, inserted in a deep, abrupt, uneven cavity. Calyx closed, set in a deep round basin. Flesh juicy, buttery, sweet and pleasant. December. (Ad. Int. Rep.)

Nouveau Poiteau. Bivort.

A seedling of Van Mons, a very vigorous grower, forming a beautiful pyramid, very productive, young wood brownish-red. Fruit large, obovate, inclining to pyriform. Skin green, with numerous russet dots and sometimes patches of russet. Stem rather short, curved, inserted at an inclination often by a fleshy protuberance or fold, without depression. Calyx large, closed, set in a narrow basin of moderate depth. Flesh whitish, buttery, juicy, melting, with a sugary, vinous, and very refreshing flavour. Ripe November. A pear of great promise.



Nouveau Poiteau.

Omer Pacha.

Fruit rather large, turbinate. Skin clear green, dotted and speckled with russet chiefly around the stem. Flesh fine, tender, nearly buttery, very juicy, sugary, vinous, perfumed. Ripe August and September. (Leroy's Cat.)

Onondaga. Hort.

Supposed to have originated in Farmington, Conn. Tree very vigorous and productive.

Fruit large, obtusely-pyriform, tapering from centre towards calyx and stalk. Skin somewhat coarse and uneven, thickly covered with russet dots, fine rich yellow at maturity, generally with some traces of russet, and sometimes with a sunny cheek.

Stalk rather stout, of medium length, inserted in a small cavity, at an inclination. Calyx small, firmly closed, set in a narrow, somewhat uneven basin. Flesh buttery, melting, abounding in juice, slightly granular, and when in perfection with a fine rich, vinous flavour. A variable fruit, often quite acid and not rich. September to November.

Ontario.

Origin, Geneva, Ontario County, N. Y. Tree vigorous and productive, said to be a valuable market variety.

Fruit medium, elongated, obtuse-pyriform, somewhat irregular. Skin pale yellow, thickly covered with grey or green dots. Stalk long, curved, inserted by a fleshy ring in a rather large depression. Calyx partially closed or open in a shallow, irregular, corrugated basin. Flesh white, granular, juicy, almost melting, with a sweet, pleasant flavour. Ripens last of September.

Orpheline Colmar. Van Mons.

Tree vigorous, very fertile. Fruit very large, pyriform. Skin bright green, becomes somewhat yellow at maturity, striped and dotted with grey, brown, and black, and shaded with russet, fawn on the sunny side, and around the calyx and stem. Flesh whitish-yellow, fine, melting, a little granular around the core, juicy, sweet, and perfumed. A beautiful and excellent fruit, ripening about the middle of October. (An. Pom.)

Osborne. West. Farm. and Gard.

Origin, Economy, Indiana. Productive and a free grower.

Fruit medium, short-pyriform. Skin yellowish-green, with numerous grey dots. Stalk rather long, inclined in a slight depression, basin broad and shallow. Calyx partially closed. Flesh white, juicy, brisk, vinous. Middle of September.

Osband's Summer. Hort.

Origin, Wayne County, N. Y. Tree moderately vigorous, upright, an early and prolific bearer.

Fruit small, obovate, inclining to conic. Skin fine, clear yellow, thickly dotted with small greenish and brown dots, with a warm cheek on the side of the sun, and some traces of russet, particularly around stalk and calyx. Stalk of medium length, rather strong, inserted in an abrupt cavity. Calyx open, set in a broad, shallow basin. Flesh white, juicy, melting, with a rich sugary flavour and pleasant musky perfume. Ripens early in August.

Oswego Beurré. Hort.

Read's Seedling.

Raised by Walter Read, of Oswego, N. Y. Tree vigorous, hardy, and productive.

Fruit medium, oblate, sometimes inclining to conic. Skin yellowish-green, streaked and mottled with thin russet, but becomes a fine yellow. Stalk rather short, inserted in a deep, round cavity. Calyx closed, set in an even, shallow basin. Flesh buttery, juicy, melting, with a fine rich, vinous, aromatic flavour. October, November.

Paddock.

Received of Chauncey Goodrich, of Burlington, Vt., who informs us that it is quite popular in many sections of that State, ripening about the time of Madeline, and by many preferred to it. Fruit rather below medium, pyriform. Skin light yellow, sometimes with a faint blush. Stalk medium, with much depression. Calyx in a rather broad, shallow basin. Flesh fine grained, melting, sweet but not very high flavour. Ripe last of July.

Pardee's Seedling.

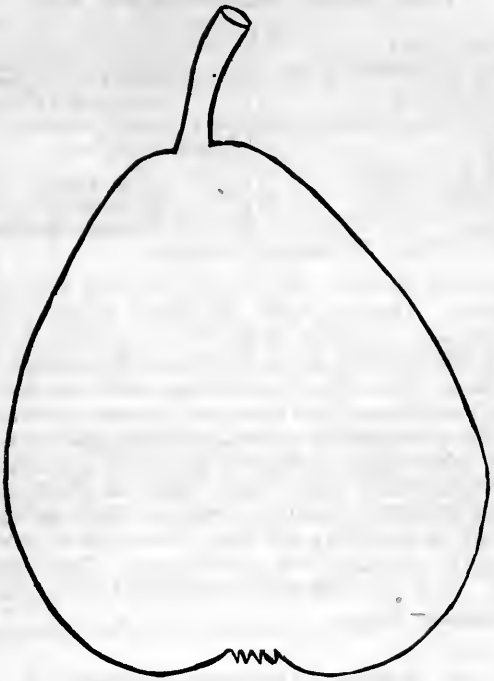
Raised by S. D. Pardee, New Haven, Conn. Tree very productive, young shoots slender.

Fruit small, roundish. Skin greenish-yellow, chiefly covered with russet. Stalk short, calyx open. Flesh coarse, granular, buttery, juicy, melting, with a very high, vinous flavour, strongly perfumed. October.

Parsonage.

For its history, see Church. Tree a fine healthy grower, produces large crops of perfect fruit annually.

Fruit medium or large, obovate, obtuse-pyriform, often inclined. Skin orange yellow, rough, generally shaded with dull crimson, netted with russet and thickly sprinkled with russet dots. Stalk short and thick, fleshy at its junction, inserted in a small cavity. Calyx partially open, stiff, set in a shallow, slightly russeted basin. Flesh white, slightly coarse, somewhat granular, juicy, melting, with a very sugary and refreshing vinous flavour. This beautiful and excellent fruit will no doubt rank among the most valuable of its season. Ripe all of September.



Parsonage Pear.

Paradise d'Automne.

Calebasse Bosc. Van Mons.
Maria Nouvelle.
Princesse Marianne.

Tree very vigorous, shoots long and twisting, thickly sprinkled with very conspicuous dots.

Fruit large, angular, with its largest diameter near the centre, pyriform, often gourd-form. Skin yellow, mottled, and often entirely overspread with bright cinnamon russet, surface uneven. Stalk long, enlarged at both ends, and inserted without much cavity, often by fleshy wrinkles or folds. Calyx open, basin abrupt, and surrounded by prominences. Flesh moderately fine, sometimes slightly granular, juicy, melting, with a very rich vinous, aromatic flavour. September, October.

Passe Colmar. Lind. Thomp. P. Mag.

Ananas d'Hiver.		Colmar Hardenpont.
Passe Colmar Epineaux.		Présent de Malines.
Colmar Gris.		Marotte Sucrée Jaune.
Passe Colmar Gris.		Souveraine d'Hiver.
Beurré Colmar Gris, dit précel.	*ac. to*	Colmar Souveraine.
Précel.	*Thomp.*	Gambier.
Fondante de Panisel.		Cellite.
Fondante de Mons.		Colmar Preule.
Beurré d'Argenson.		Colmar Dorée.
Regintin.		D'Ananas, (*of some.*)

Pucelle Condésienne.

The Passe Colmar is a Belgian pear, raised by the Counsellor Hardenpont. Vigorous growth, and abundant bearer. It grows indeed almost too thrifty, making long, bending shoots, and owing to this over-luxuriance, the fruit is often second rate on young trees, but on old trees, with high cultivation, it is sometimes of the best quality. It is a very variable fruit, and often poor. The young shoots are of a lively brownish-yellow.

Fruit rather large, varying considerably from obovate to obtuse-pyriform. Skin rather thick, yellowish-green, becoming yellow at maturity, a good deal sprinkled with light-brown russet. Stalk an inch and a half long, inserted in an obtuse, uneven cavity, or sometimes without depression. Calyx open, basin shallow. Flesh yellowish-white, buttery and juicy, with a rich, sweet, aromatic flavour.

Passans du Portugal. Thomp.

Summer Portugal. Miller's Early.

A delicate and pleasant pear, which comes early into bearing, and produces very large crops. Shoots upright, reddish-brown.

Fruit small, roundish, and much flattened. Skin pale yellow, with a cheek of fairest brown, becoming red in the sun. Stalk nearly an inch long, inserted in a round, regular hollow. Calyx stiff, basin moderately sunk. Flesh white, juicy, breaking, of very delicate, agreeable flavour. Last of August.

Pater Noster.

Fruit large, oblong. Skin yellow-russet. Stalk medium in length, wrinkled, enlarged at its insertion, which is at an inclination in a small irregular cavity. Calyx open, segments stiff, in a small even basin. Flesh yellowish, juicy and melting, with a rather rich, vinous, or subacid flavour, pleasantly perfumed. November, December.

Paqency.

Paquency.

Introduced from France, by Col. M. P. Wilder. Fruit of medium size, regularly pyriform. Skin green at first, becoming dull yellow at maturity, marked with patches of russet at both extremities, and dotted with the same. Stalk long, inserted without depression. Calyx stiff, open, set in a very shallow basin. Flesh white, buttery, with sweet, rich, and perfumed flavour. October to November.

Peach Pear.

Poire Peche.

A seedling of Esperen, of moderate growth and productive. Fruit medium, turbinate, approaching pyriform, often truncate-conic. Skin fine yellow, with bright russet dots. Stalk rather long, sometimes inserted in a cavity, and sometimes by a fleshy ring. Calyx open, persistent, set in a shallow basin. Flesh juicy, melting, sugary, and vinous, sometimes a little astringent. Ripens last of August.

Pendleton's Early York. Hov. Mag.

Raised by Mrs. Jeremiah York, of Connecticut. Tree moderately vigorous, and very productive.

Fruit medium or below, obovate, varying to obtuse-pyriform. Skin yellow, sometimes with a faint blush. Stalk inserted in a moderate cavity. Calyx open, basin irregular. Flesh melting, sweet, slightly perfumed. Ripens last of July.

Pengethly.

One of Mr. Knight's seedlings. Fruit medium, inclining to oval. Stem long, rather slender, enlarged at the base, curved and twisted, set in a rather uneven depression. Calyx large, segments quite long and narrow. Skin light green, thickly sprinkled with dark dots, yellowish on the side of the sun, where the dots become reddish, and sometimes form a red cheek. Flesh somewhat coarse, but juicy, sweet, and good. One of the best of Knight's pears. February, March. (Robert Manning's MS.)

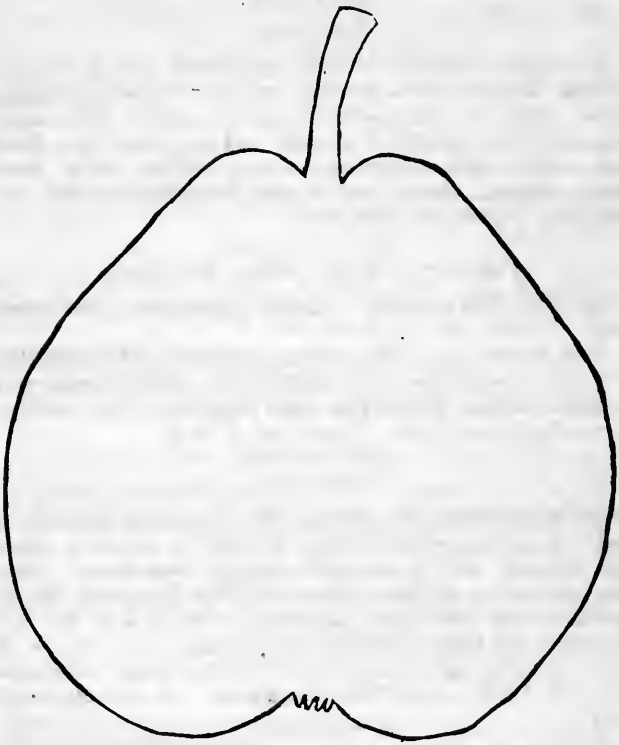
Petré.

An American pear. The original tree is growing in that interesting place, the old Bartram Botanic Garden, near Philadelphia. Col. Carr, the proprietor, who has disseminated this tree, informs us that in 1735, a seed was received by the elder

John Bartram, from Lord Petré of London, as being the seed of a fine butter pear.

The tree is not a rapid grower, but produces very regular and abundant crops. Young wood slender, yellowish-brown.

Fruit of medium size, or rather large, obovate. Skin very thin, pale yellow, (sometimes marked with greenish-russet, and sprinkled with russet about the eye.) Stalk stiff and strong, about an inch long, stout at the lower end, and set in a peculiar, abruptly flattened cavity. Calyx small, set in a narrow, but smooth basin. Flesh whitish, fine grained, buttery, and very melting; with a perfumed, slightly musky, high flavour. October, and if picked early, will keep a long time.



Philadelphia.

PHILADELPHIA. Hort.

Leatch. Orange Bergamot (*erroneously*).

Origin, near Philadelphia. Tree healthy, vigorous, young shoots yellowish-brown, productive.

Fruit large, oblate, obtuse-pyriform, sometimes broadly oval-truncate. Skin yellow, thickly sprinkled with green or grey dots, sometimes netted with russet. Stalk of medium length, stout at its insertion in an abrupt cavity. Calyx open, set in a broad uneven basin. Flesh coarse, juicy, buttery, melting, with an excellent sugary flavour, slightly perfumed. September.

Philippe Goes. Bivort.

. Tree sufficiently vigorous, and very fertile. Fruit medium, turbinate-pyriform, bossed, and often irregular. Skin rough, totally covered with grey russet. Flesh whitish-yellow, fine and melting, juice enough, sweet, and finely perfumed; quite first quality. Ripens middle of November. (An. Pom.)

Pie IX. Bivort.

Tree vigorous. Fruit large, oblate, obconic, irregularly pyriform, largest diameter at the centre. Skin yellow, slightly russeted. Stalk medium, curved, rather stout, fleshy at its insertion, by a lip. Calyx open, basin shallow. Flesh coarse and granular, rich and good. Ripens last of September.

Platt's Seedling.

Origin on the farm of the late Thomas Tredwell, Beekmantown, Clinton County, N. Y. Tree vigorous, hardy, and productive.

Fruit rather large. Skin yellow, a fruit of good quality, and perhaps may be valuable for orchard culture, particularly at the North. October, November.

Pocahontas.

· Origin, Quincy, Mass. Tree moderately vigorous. Fruit medium, form variable, obovate-pyriform, often turbinate. Calyx small, closed. Stem short, inserted without depression. Color lemon-yellow, with traces of russet, and occasionally a bright vermilion cheek. Flesh white, melting, juicy, and buttery. Flavor sweet, rich, and musky. Ripe first to the middle of October. (Wilder in Hort.)

Poire d'Albret.

A foreign variety. Tree vigorous, productive.

Fruit medium, pyramidal (elongated or obtuse-pyriform). Skin rough, clear dark cinnamon russet, bronzed on the sunny side. Stem of medium length, stout, curved, swollen, and fleshy at the base, obliquely inserted in a slight cavity, on the lower side. Eye medium, partially open, and very slightly depressed, in a small. shallow basin. Flesh greenish-white, coarse, but-

tery, melting and juicy. Flavour vinous, very rich, and deliciously perfumed. October. (Hov. Mag.)

Poire d'Abondance. Duh.

Fruit above medium. Form oblong-pyriform. Neck thick. Colour pale yellow, with numerous russet dots, mottled and intermingled with vermilion, and red on the sunny side. Flesh melting and juicy, with a sweet delicious flavour. Ripe middle of October. (Wilder in Hort.)

Paul Ambré.

Fruit medium, obtuse, inclined-pyriform. Colour light grey, russet on greenish-yellow ground, with a warm cheek. Stalk stout, in an inclined cavity. Calyx large, basin small. Flesh white, buttery, melting, with a flavour resembling Gansel's Bergamot. October.

Poire des Chasseurs. Van Mons.

A seedling of Van Mons. Fruit medium, pyriform, sometimes depressed. Skin greenish-yellow, covered with minute dots, and a few patches of russet. Stalk long, enlarged at its junction, without depression. Calyx small, basin shallow. Flesh buttery, juicy, slightly granular, with a highly perfumed flavour, resembling Brown Beurré. October.

Poire d'Avril.

Tree a vigorous grower, both on pear and quince, very productive.

Fruit large, roundish, angular, obtusely conic. Skin greenish-yellow, slightly shaded and somewhat spotted with russet, and thickly covered with russet dots. Stalk long and curved, inserted usually in a depression. Calyx closed, basin deep, and irregular. Flesh whitish, compact, coarse, granular, juicy, half-melting, sweet and agreeable; a good baking pear, with some promise for the dessert. November to February.

Poire de Lepine.

De Lepine. Delepine.

Tree of moderate growth, very productive.

Fruit small, angular, oblate. Skin yellowish, shaded with crimson, slightly russeted. Stalk long, greatly enlarged at its junction to both fruit and branch; cavity broad and shallow. Calyx small, open in a corrugated basin of little depth. Flesh coarse, granular, melting, juicy, with a brisk, vinous, perfumed flavour. November, December.

Pound. Coxe.

Unedales St. Germain.
Winter Bell.
Bretagne le Cour.
Belle Angevine.
Belle de Jersey.
Du Tonneau.
Royal d'Angleterre.
Cornice de Toulon.
Beauté de Teroucren.
Pickering Pear.
Lent St. Germain.

The Pound, or Winter Bell pear, valued only for cooking, is one of the most common fruits in the Middle States. Indeed, this and the Black Pear of Worcester, so common in New England, are the only two kitchen pears extensively grown in this country. The pound pear is the larger of the two, often weighing a couple of pounds each. It is also an abundant bearer, and a profitable orchard crop. The trees are strong and healthy, with very stout, upright, dark-coloured wood.

Fruit large, pyriform, swollen at the crown, and narrowing gradually to a point at the insertion of the stalk. Skin yellowish-green, with a brown cheek, (yellow and red when long kept,) and sprinkled with numerous brown russet dots. Stalk two inches or more long, stout, bent. Calyx crumpled, set in a narrow, slight basin. Flesh firm and solid, stews red, and is excellent, baked or preserved.

Pratt. Hort.

A native of Rhode Island. Tree a vigorous upright grower, very productive.

Fruit above medium, obtuse-pyriform. Skin greenish-yellow shaded with crimson, and sprinkled with numerous russet and grey dots, frequently patched and netted with russet. Stalk long, slender, curved, inserted in a regular cavity. Calyx open, set in a broad shallow basin. Flesh white, juicy, melting, briskly vinous, and saccharine, variable, but when in perfection of great excellence. Ripens last of September.

Prevost. Bivort.

Poire Prevost.

Fruit of medium size. Skin thin, smooth, light green, passing to golden-yellow at maturity, deeply shaded with carmine in the sun. Flesh white, half melting, half buttery, sweet, and strongly perfumed. Ripens in December, but may be kept until April. (Al. Pom.)

Prince Albert. Bivort. Van Mons.

Tree vigorous, succeeds on pear and quince. Fruit medium, pyriform. Skin very thick and smooth. Colour yellowish, sometimes with a slightly sunny cheek. Stalk an inch long. Eye small, open, in a shallow even cavity. Flesh yellowish-white, fine, melting, sugary and rich. February, March. (Gard. Ch.)

Pulsifer.

Raised by Dr. John Pulsifer of Hennepin, Illinois. An upright and vigorous grower, shoots dark olive.

Fruit below medium in size, pyriform. Stalk short and curved. Calyx small, open, basin shallow. Skin dull golden-yellow, covered with an open network of slight russet. Flesh white, melting, juicy, sweet and delicious. Ripens middle of August. (Smiley in Hort.)

Quilletette. Van Mons.

An odd-looking, late autumn fruit, received from Van Mons.

Fruit nearly of medium size, roundish, a little flattened. Skin greenish, nearly covered with dull, iron-coloured russet. The flesh is white, buttery, and melting, sweet and perfumed. November.

Raymond. Man.

The Raymond is a native of Maine, and originated on the farm of Dr. I. Wright, in the town of this name.

Tree of slow growth. Young shoots very slender, dark yellowish-brown.

Fruit of medium size, obovate, shaped like the Doyenné. Skin yellow, marked with russet near the stalk, and tinged with a little red towards the sun. Stalk an inch or more long, inserted with little or no depression. Calyx round, firm, open, set in a shallow basin. Flesh white, buttery, melting, and very excellent. September.

Rapelje.

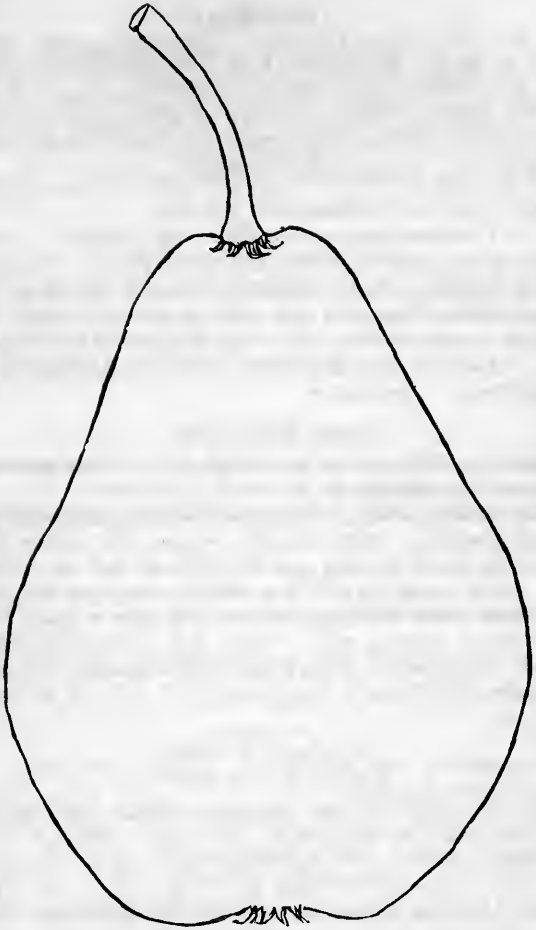
Introduced by Professor Stevens, Astoria, Long Island. Tree vigorous and productive.

Fruit medium, obovate, sometimes obtuse, and sometimes acute-pyriform, sometimes turbinate. Skin yellowish, covered with cinnamon russet. Stalk long, rather thick, generally inserted by a lip. Calyx large and open, set in a very shallow basin. Flesh whitish, somewhat granular, juicy and melting, with a very sweet, rich, vinous, aromatic flavour; variable, sometimes poor. September.

Reading.

A Pennsylvanian pear. Tree vigorous and productive.

Fruit large, elongated, obtuse-pyriform, angular and ribbed. Skin yellow, thickly dotted with brown and grey dots and sprinkled with russet. Stalk long, curved, enlarged and ribbed at its insertion, generally in a depression. Calyx open, segments strong, in an exceedingly shallow basin. Flesh whitish, granular, melting, with a brisk, vinous flavour. January to March



Reading.

RETOUR DE ROME. Van Mons.

Fruit medium, oblate, very much depressed, obscurely pyriform, angular. Skin yellowish, blotched with russet, and thickly sprinkled with russet dots. Stalk short, and stout at its insertion in a small inclined cavity. Calyx partially closed, in a round narrow basin. Flesh whitish, coarse, granular, melting, juicy, with a rich vinous flavour, slightly astringent. September.

Richards.

Origin, Wilmington, Delaware. Fruit rather large, obovate, oblate, pyriform. Skin yellow, with numerous small russet dots. Stalk of medium length, curved, inserted by a fleshy ring in a slight depression. Calyx partially closed, basin very small. Flesh buttery, juicy, melting, granulated, with a sweet, pleasant, vinous flavour. Ripens first of October.

Ridelle's. Bivort.

Beurré Audusson. *Thomp.* Poire Ritelle.

Tree of moderate vigour, reddish-brown shoots. Productive.

Fruit medium, oblate, turbinate, remotely pyriform. Skin yellow, covered nearly all over with bright red. Stalk short, fleshy at its insertion by a lip. Calyx open, in a very shallow basin. Flesh not very fine, rather juicy, not melting or delicate in flavour. September.

Roe's Bergamotte.

Raised by William Roe, Newburgh, N. Y. Tree moderately vigorous, very productive.

Fruit medium, oblate, or Bergamotte-shaped, somewhat angular and irregular. Skin smooth, yellow, with minute yellow dots in the shade, mottled and clouded with red on the sunny side. Stalk short, inserted in a narrow, abrupt cavity. Calyx small, with short stiff segments, set in a narrow basin. Flesh rather coarse, melting, with a sweet, rich, brisk, well perfumed flavour. Core large. The flavour of this excellent new pear is extremely like Gansel's Bergamotte, but much more sugary. September.

Rousselet Esperen.

Rousselet Double. *Esperen.*

Tree very vigorous, and very productive. Fruit pyriform, turbinate, largest at its middle. Skin lemon yellow at maturity, strongly pointed with reddish-grey and white dots, and covered with russet around calyx and stalk. Flesh whitish, half fine, half melting, juicy, sugary, vinous and perfumed. Ripens well, and is long in use. September. (Al. Pom.)

Rousselet Enfant Prodigue. Van Mons.

Enfant Prodigue. *Bivort.*

One of Van Mons' seedlings. Tree vigorous, productive.

Fruit medium, pyriform. Skin thick and rough, green, covered with russet, sometimes with a sunny cheek. Stalk of medium length, in an inclined cavity. Calyx large, basin shallow. Flesh greenish-white, juicy, granular, with a first rate, vinous flavour, very much resembling Brown Beurré, but more sugary; highly perfumed with musk. October, November.

Ropes.

Origin, garden of Mr. Ropes, Salem, Mass.

Fruit medium, obovate, tapering towards each end. Colour cinnamon russet, slightly tinged with red on the sunny side. Stem short, in an inclined cavity. Calyx small, open, basin shallow. Flesh yellowish, coarse, melting and juicy. Flavour sugary, and good, with a rich perfume. October, November. (Hov. Mag.)

Rosabirne.

Fruit medium, pyriform. Skin russet, on green ground, becoming somewhat yellow when ripe. Stalk variable in its insertion, sometimes in a small cavity. Calyx partially closed, set in a medium basin. Flesh melting, juicy, rich, and vinous; slightly astringent, resembles Brown Beurré. Ripens middle of October.

Rousselet Vanderwecken. Gregoire.

A pyramidal tree, of medium vigour, but very productive.

Fruit small, varying in form from Doyenne to Bergamotte. Skin yellow at time of maturity. Flesh white, fine, melting; juice abundant, sugary, and strongly aromatic, like that of the Rousselet. Fruit quite of first quality, and ripe first of November. (An. Pom.)

Rousselet Stuttgart.

Tree a vigorous, upright grower, both on pear and quince.

Fruit below medium, conic, or pyramidal. Skin greenish, with a red or brownish cheek, and sprinkled with brown and green dots. Stalk rather long, curved, enlarged at its insertion, generally without depression. Calyx open, basin shallow. Flesh rather coarse, juicy, half melting, with a sweet, rich flavour, partaking largely of the spicy aroma that belongs to the family of Rousselets. Often rots at the core. Ripe last of August.

Saint Germain, Brande's.

Tree a slow grower, with slender branches.

Fruit of medium size, oval, narrowing towards both ends. Skin yellowish-green. Flesh melting, juicy, with a rich and excellent flavour. November and December.

Salisbury Seedling.

A native of Western New York. Tree vigorous.

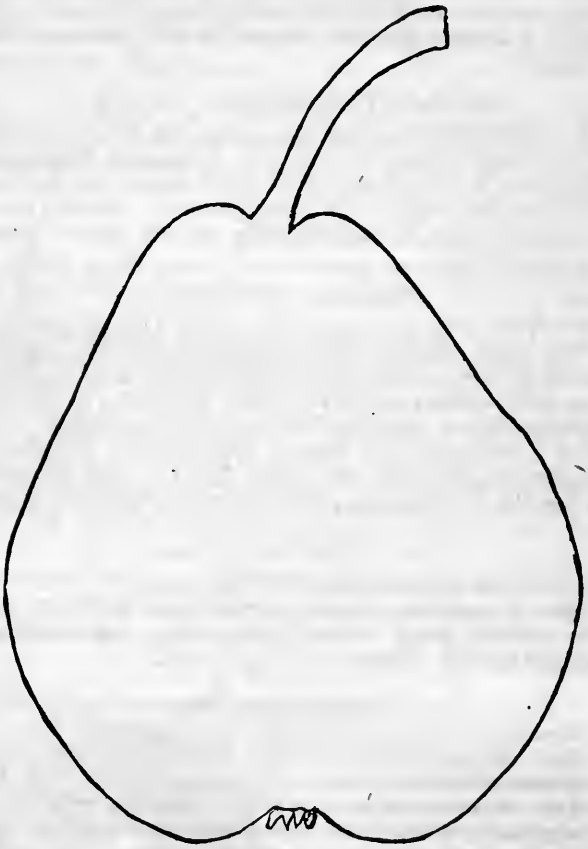
Fruit depressed-pyriform. Skin rough, somewhat covered with russet, and thickly sprinkled with russet dots. Stalk short and thick, inserted by a fleshy ring. Calyx closed, in a deep, uneven basin. Flesh coarse, and of not much claim to excellence so far as proved. Ripe October.

Sanspeau, or Skinless. Thomp. Lind. Mill.

Poire Sans Peau. *O. Duh.* Fleur de Guignes.

The Skinless is a very nice little pear, with a remarkably thin, smooth skin, and a delicate, perfumed flavour. It bears in clusters, and very regularly. It is not first rate, but is esteemed by many.

Fruit below medium size, long pyriform. Skin very smooth and thin, pale green, becoming light yellow, speckled with light red in the sun. Stalk long, slender, curved, inserted in a very trifling cavity. Calyx closed, set in a small basin. Flesh white, juicy, half melting, with a sweet and slightly perfumed flavour. Middle of August.



Selleck.

Selleck.

Origin somewhat uncertain. The oldest bearing tree stands on the grounds of Mr. Selleck, Sudbury, Vt., and is of healthy growth, and very productive; young wood yellowish-olive.

Fruit large, obtuse-pyriform, angular, and ribbed. Colour fine yellow, sometimes with a crimson cheek and thickly sprinkled with russet dots. Stalk long and curved, fleshy at its insertion in a moderate cavity. Calyx nearly closed, in a rather small uneven basin. Flesh white, a little coarse, juicy and melting, with a rich, excellent, aromatic flavour. A new, promising, valuable fruit. September, October.

Serrurier. Bivort.

Suerrier d'Automne. Fondante de Millot.

Fruit medium, oblate, obconic, obtuse-pyriform. Skin yellow, slightly disposed to russet, and thickly sprinkled with grey dots. Stalk rather short in a moderate cavity. Calyx open, in a broad basin. Flesh light yellow, somewhat granular, sugary, juicy, melting, with a brisk, vinous, excellent flavour. September, October.

Sheppard.

Raised by James Sheppard of Dorchester, Mass.; introduced to notice by Dr. L. W. Puffer. Tree a free grower, and very productive.

Fruit large, obovate, pyriform, sometimes pyramidal (greatly varying in form). Skin rough, yellow, sometimes with a brownish red cheek, slightly sprinkled with russet dots, and with some patches of russet. Stalk short and stout, in a depression, often inclined, surrounded by russet. Calyx partially closed, set in a very shallow, furrowed basin. Flesh whitish, coarse and granular buttery, melting, very juicy, with a vinous, perfumed, banana flavour. Ripens last of September, and first of October.

Simon Bouvier.

Tree of moderate vigour. Fruit small, pyriform. Skin bright green. Flesh white, fine, melting, and well perfumed. September. (Al. Pom.)

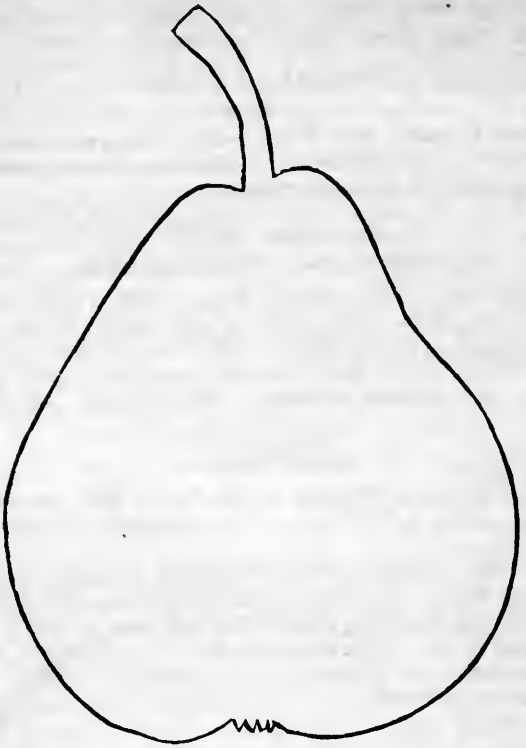
Soldat Laboureur. Esperen.

Auguste Van Krans. *De Jonghe.*

Raised by Major Esperen.

Tree vigorous, upright, young wood chestnut-coloured, very productive, succeeds well upon quince. Fruit rather large, oblique-pyriform, swelled toward the centre. Skin smooth,

yellow at maturity, dotted and shaded with thin light russet. Stalk rather stout, long and curved, inserted in a small, abrupt cavity. Calyx open, scarcely sunk, basin very small. Flesh yellowish, slightly granular, melting, juicy, with a sugary, vi-



Soldat Laboureur.

nous, perfumed flavour. When in perfection, under high culture, it is one of the finest of pears; somewhat disposed to drop from young trees. October, November.

Souveraine de Printemps. Al. Pom.

Poire de Printemps.

Fruit medium, oblate, obscurely-pyriform, angular. Skin yellow, sprinkled with russet. Stalk short and thick, inserted in a depression. Calyx closed, basin irregular. Flesh white, juicy, melting, coarse and granular, somewhat astringent; with a brisk, vinous flavour. March.

Souveraine d'Été.

Fruit medium, obovate, obconic, truncate. Skin light yellow, with numerous dots, which are crimson on the sunny side. Stalk short, in a narrow cavity, frequently by a lip. Calyx partially closed, basin medium. Flesh whitish, juicy and melting. Flavour sugary, vinous, rich. Ripens first of September.

Sterling. Hov. Mag.

De Mott.

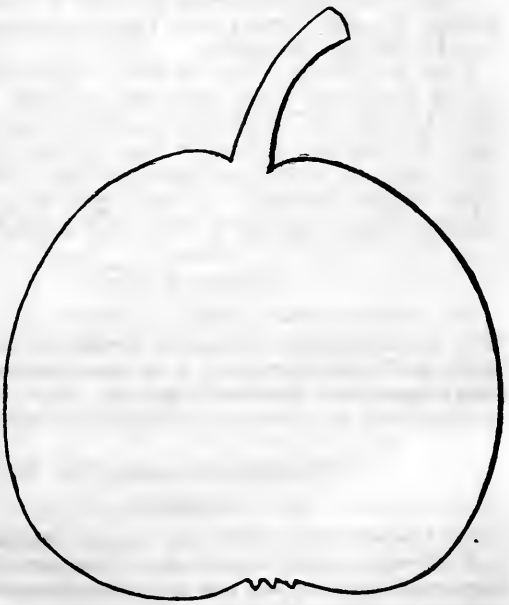
Origin, Livingston Co., N. Y.; grown from seed brought from Connecticut. Tree vigorous, upright, young wood yellowish-brown, an early bearer, and productive.

Fruit medium, nearly round, slightly oval, very obscurely pyriform. Skin yellow, sometimes with a few small patches of russet, and on the sunny side a mottled crimson cheek. Stalk rather stout, inserted in a slight cavity by a ring. Calyx open, in a shallow, rather uneven basin. Flesh rather coarse, juicy, melting, with a very sugary, brisk flavour. Ripens last of August, and first of September.

Stevens' Genesee. Man. Thomp.

Guernsey. *Pom. Man.* Stevens' Genesee.
Louis de Busse?

This admirable pear, combining in some degree the excellence of the Doyenné and Bergamotte, is reputed to be a seedling of Western New - York. It originated on the farm of Mr. F. Stevens, of Lima, Livingston Co., N. Y. Altho' placed among autumn pears, it frequently ripens here at the end of August



Stevens' Genesee.

among the late summer varieties. Young shoots diverging, dark grey.

Fruit large, roundish-obovate, and of a yellow colour, resembling that of the Doyenné (or Virgalieu). Stalk about an inch long, stout, thicker at the base, and set in a slight, rather one-sided depression. Calyx with short, stiff divisions, placed in a smooth basin of only moderate depth. Flesh white, half buttery, with a rich, aromatic flavour, somewhat like that of Gansel's Bergamotte. First of September.

Styrian. Thomp.

This very bright-coloured and excellent pear comes from England. Tree not thrifty.

Fruit rather large, pyriform, a little one-sided and irregular. Skin deep yellow, with a bright red cheek, and streaks of light russet. Stalk an inch and a half long, curved, slender, fleshy where it tapers into the fruit. Calyx large, open, and set in an irregular basin. Flesh yellowish, not very fine grained, crisp, with a rich, high-flavoured juice. October.

Styer. Hort.

Origin uncertain; introduced by Allen W. Corson, of Montgomery Co., Pa. Tree a very vigorous grower, shoots stout and short jointed, productive.

Fruit medium size, form roundish. Skin green, becoming yellow, with many russet dots and markings. Stalk rather short, inserted in a small, shallow cavity. Calyx almost obsolete, basin narrow, moderately deep. Flesh yellowish-white, somewhat gritty at the core, buttery, melting. Flavour exceedingly rich, and perfumed. A distinct pear of great excellence. Ripens middle of September. (W. D. Brinckle.)

St. Jean Baptiste.

One of Van Mons' seedlings. Fruit medium, pyriform. Skin greenish-yellow, rough, and sprinkled with russet. Stalk medium, curved, inserted by a lip in an inclined depression. Calyx open, basin broad and shallow. Flesh granular, juicy, melting, sweet and perfumed. October, November.

St. Michael Archange. An. Pom.

Plombgastel.

Tree vigorous and productive; succeeds on quince.

Fruit large, elongated, pyriform. Skin greenish-yellow, with many russet dots. Stalk of medium length, stout and fleshy at its insertion, almost without cavity, surrounded by russet. Ca-

lyx closed, basin small and uneven. Flesh yellowish, melting, abounding in juice, somewhat coarse and granular, with a fine rich, aromatic flavour. October.

St. Vincent de Paul.

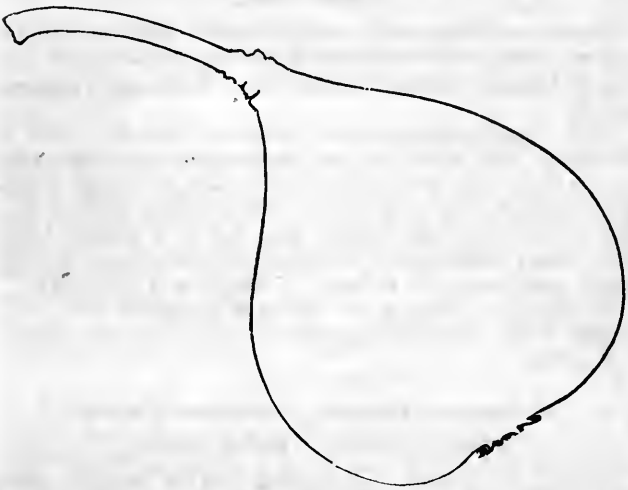
Fruit small, like Martin Lee. Skin russet. Flesh sugary, half melting, ripening in January. (Leroy's Cat.)

St. Dorothée.

Royale. Nouvelle.

Of foreign origin; tree vigorous.

Fruit large, acute-pyriform. Skin rough, dull green, faintly browned in the sun. Stalk long and curved, in a very shallow cavity. Calyx partially closed, moderately sunk in a rather contracted basin. Flesh white, fine, very melting and juicy. Flavour rich, saccharine and vinous, with an orange-like perfume. October. (Hov. Mag.)



St. Ghislain.

St. Ghislain. Thomp.

Quinnipiac.

A most excellent Belgian pear, recently originated by M. Dorlain, and introduced into the United States by S. G. Perkins, Esq., of Boston. When in perfection, it is of the highest quality, but on some soils it is a little variable. The tree is re-

markable for its uprightness, and the great beauty and vigour of its growth. Young shoots light brown.

Fruit of medium size, pyriform, tapering to the stalk, to which it joins by fleshy rings. Skin pale clear yellow, with a few grey specks. Stalk an inch and a half long, curved. Calyx rather small, open, set in a shallow basin. Core small. Flesh white, buttery and juicy, with a rich, sprightly flavour.

St. André. Man. in H. M.

Imported by Mr. Manning, from the Brothers Baumann, of Bolwyller. Wood cancers.

Fruit medium, obovate. Skin light greenish-yellow, somewhat dotted with red. Flesh white, fine grained, buttery, melting, and excellent. Early in September. Fruit sometimes cracks.

St. Germain. O. Duh. Lind. Thomp.

St. Germain Gris. St. Germain Jaune.
Inconnue la Fare.

This is a well-known old French variety. The tree is rather a slow grower, with a dense head of foliage,—the leaves narrow, folded, and curved; the wood slender, and light olive coloured.

Fruit large, pyriform, tapering regularly from the crown to the stalk. Skin yellowish-green, marked with brownish specks on the sunny side, and tinged with a little brown when ripe. Stalk an inch long, strong, planted obliquely by the side of a small, fleshy swelling. Calyx open, set in a shallow basin. Flesh white, a little gritty, but full of refreshing juice, melting, sweet, and agreeable in flavour. November and December.

The Striped Germain (*St. Germain Panachée*) is a pretty variety of this fruit, differing only in being externally striped with yellow.

St. Germain, Prince's. Pom. Man. Thomp.

Brown St. Germain. New St. Germain.

Prince's St. Germain is a seedling from the foregoing pear, raised at Prince's nurseries, at Flushing, about forty years ago. It is a most thrifty and hardy tree, with dark reddish-brown shoots. The fruit keeps as well as a russet apple, is uniformly good, and is certainly one of the best late pears when under good cultivation. It is much more esteemed in the Eastern States than the old St. Germain.

Fruit of medium size, obovate, inclining to oval. Skin nearly covered with brownish russet over a green ground, and becoming dull red next the sun. Stalk an inch or more long, a

little curved, and placed in a slight, flattened depression. Calyx large, open, firm, and nearly without divisions, set in a smooth, nearly flat basin. Flesh yellowish-white, juicy, melting, with a sweet, somewhat vinous, and very agreeable flavour. November to March.

St. Menin.

Fruit large, elongated, pyriform. Colour yellowish-green, with fawn about the crown, russet surrounding the stem, and thickly dotted all over. Stem of moderate length, inserted in an even cavity. Calyx small, basin shallow. Flesh melting, juicy, excellent. Ripens from the 10th to the end of September. (L. E. Berckman's MS.)

Sullivan. Man. in H. M.

Van Mons, No. 889.

Sent to this country by Van Mons, and named by Mr. Manning. Young shoots slender, diverging, reddish-brown. Fruit of medium size, oblong-pyriform. Skin pale greenish-yellow. Stalk an inch and a half long, stout, inserted at the tapering, pointed end. Flesh juicy, melting, sweet and pleasant. September.

Supreme de Quineper. C. H. A.

Tree vigorous and productive. Fruit medium or small, obconic, obovate. Skin fine, clear yellow, richly shaded with red, somewhat specked and netted with russet. Stalk rather short, obliquely inserted, without cavity, by a slight appearance of a lip. Calyx open or partially closed; basin shallow. Flesh whitish, juicy, melting, sweet and perfumed. Ripe early in August—should be gathered very early, or becomes dry.

Surpasse Meuris.

Tree vigorous. Fruit medium, depressed, pyramidal. Skin rough, entirely covered with russet. Flesh whitish, melting and juicy, sweet and vinous, with a peculiar flavour. Ripens middle of October. (Al. Pom.)

Surpasse Crassane.

A new seedling of Van Mons. Fruit greatly resembles the old Crassane. Tree vigorous and healthy, both on pear and quince, and is much more productive than the old variety, which it surpasses.

Surpasse Virgalieu. Man.

Surpasse Virgouleuse. Colmar Van Mons?

The precise origin of this very delicious fruit is not known. It was first sent out from the nursery of the late Mr. Andrew Parmentier, of Brooklyn, under this name, and is, perhaps, an unrecognised foreign pear, so named by him in allusion to its surpassing the favourite Virgalieu (White Doyenné) of New-York.

Fruit rather large, obovate, sometimes roundish-obovate. Skin smooth, pale lemon yellow, with a very few minute dots, and rarely a little faint red on the sunny side. Stalk rather more than an inch long, not deeply planted in a cavity rather higher on one side. Calyx rather small, and pretty firm, set in a slight, smooth basin. Flesh white, exceedingly fine grained and buttery, abounding with delicious, high flavoured, aromatic juice, different from that of the Doyenné. October.

Suzette de Bevay. Al. Pom.

Raised by Major Esperen. Tree vigorous on pear and quince, and very productive.

Fruit small, obconic, angular. Skin yellowish, sprinkled with minute dots, and some traces of russet. Stalk very long, curved, inserted in an irregular cavity by a fleshy ring. Calyx open, basin shallow and uneven. Flesh whitish, melting, sugary and somewhat perfumed, refreshing and vinous. Ripe January, March. Has not yet succeeded well here; may be good on quince.

Tarquin de Pyrennees.

Tree vigorous. Fruit large, pyriform. Stem long, stout, fleshy at its junction, without cavity. Calyx large, open, with persistent segments, in a broad, irregular basin, surrounded by russet. Skin green, sprinkled or patched with russet, and thickly covered with brown dots. Flesh of poor quality, a very long keeper, and said to keep two years. Only a cooking pear.

Taylor Pear.

Merriweather.

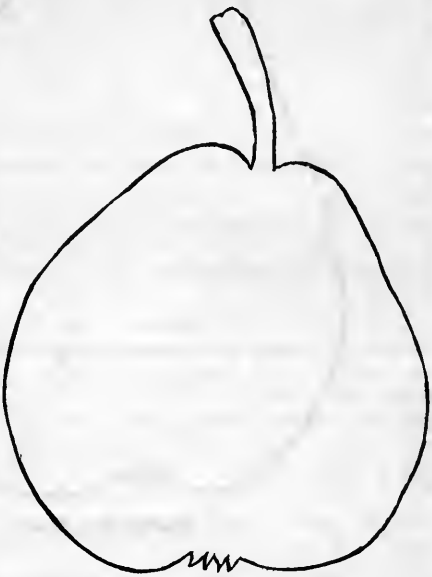
Originated on the farm of Mr. Merriweather, near Charlottesville, Albemarle Co., Va. Tree vigorous, young wood olive, productive.

Fruit medium, roundish, oblate. Skin light green, mottled with dark green. Stalk rather long, fleshy at its termination, in a very slight depression. Calyx very small, set in a wide, superficial basin. Flesh fine texture, buttery. Flavour vinous, with a delicate, vanilla aroma. Quality "very good." Ripe November to February. (Dr. W. D. Brinckle, MS.)

Tea.

Raised by Mrs. Ezra Merchant, of Milford, Conn. The seed was found in a pound of tea, which she purchased at the store, hence its name.

Tree vigorous and productive, young wood greenish-yellow. Fruit medium, obovate, inclining to pyriform, with a suture on one side. Skin lemon yellow, with numerous small brown dots, and sometimes a reddish cheek. Stalk rather stout, inserted obliquely, under a lip in a very small cavity. Calyx half closed, basin shallow. Flesh white, fine, juicy, melting and vinous. Ripens last of August to middle of September; a very promising pear.

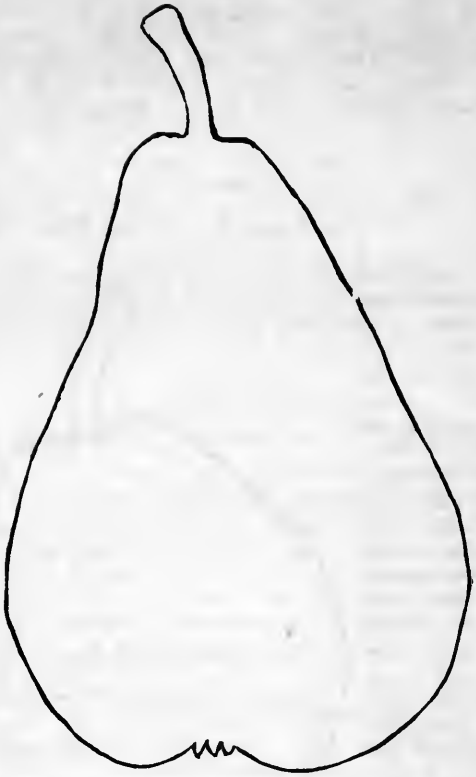


Tea.

Theodore Van Mons. Bivort. Thomp.

Tree vigorous and productive on pear or quince.

Fruit rather large, elongated, obscurely pyriform, irregular. Skin greenish, slightly sprinkled with russet. Stalk inserted at an inclination by a lip, surrounded by russet. Calyx closed, set in a small, irregular basin. Flesh white, coarse, granular, juicy, melting and vinous. Ripe September, October.



Theodore Van Mons.

THOMPSON'S. Thomp.

This new and very rich-flavoured pear, received by us from the Horticultural Society of London, was named in honour of Mr. Robert Thompson, the head of the fruit department in the Society's garden, to whose pomological acumen the horticultural world is so largely indebted.

Tree vigorous and productive, fruit variable.

Fruit of medium size, obovate, slightly irregular in surface. Skin pale lemon yellow, with a few small, russety dots and streaks. Stalk pretty stout, an inch or more long, inserted in a blunt, uneven cavity. Calyx open, stiff, often without divisions, basin slightly sunk. Flesh white, buttery, melting, with a rich, sugary, slightly aromatic flavour. October and November.

Thorp.

Received from J. M. Ketchum, of Brandon, Vermont.

Fruit large, obovate, truncate, obtuse-pyriform. Skin fine waxen yellow, with a slight tinge of crimson, thickly covered with brown dots. Stalk of medium length, rather stout, in a deep, narrow, irregular cavity. Calyx small and closed, basin furrowed. Flesh white, buttery, melting. Flavour very agreeable. October.

Thuerlinck.

A very large, showy fruit, whose quality does not equal its beauty, and whose great weight of fruit causes it to fall from the tree with so little wind that it is not profitable for garden or orchard. (Al. Pom.)

Totten's Seedling.

Raised by Colonel Totten, of New Haven, Conn. Tree vigorous.

Fruit medium or below, turbinate, pyriform. Skin pale yellow, slightly sprinkled with russet, and shaded with dull crimson. Stalk long, and fleshy at its insertion, by a lip. Calyx closed, basin shallow. Flesh whitish, buttery, juicy, melting, with a rich, vinous, perfumed flavour. Ripens last of September, and first of October.

Triomphe de Jodoigne. Bouvier.

A seedling of Bouvier, very vigorous and productive. Young wood dull brown.

Fruit very large, obtusely pyriform. Surface knobby and uneven, with the appearance of suture along its side. Skin rough, thick, greenish-yellow, with russet dots, and a bronze blush on the sunny side. Stalk large, long and curved, inserted by a ring in an inclined cavity. Calyx small, partially closed, basin small. Flesh rather coarse, buttery, juicy, exceedingly musky, sweet, and pretty good. November, December.

Tyler.

Fruit small, turbinate, remotely pyriform. Skin yellow, covered with russet dots. Stalk long and slender, in a moderate cavity, surrounded by russet. Calyx open, basin shallow and uneven. Flesh white, coarse, granular, buttery, melting, juicy, brisk and vinous. October.

Upper Crust.

A seedling of South Carolina, and introduced by Colonel Summer.

Fruit in size and shape resembling Dearborn's seedling. Colour green, much blotched with russet. Flesh buttery and melting, with an excellent flavour. Season July, and ripens well in the house. Has not proved good here.

Uwchlan.

Dowlin. Round Top.

Origin on the premises of widow Dowlin, Uwchlan township, Pa., near the Brandywine.

Fruit below medium, roundish, inclining to obovate. Skin yellow, mostly covered with golden russet. Stalk long, curved, in a slight depression. Calyx open, basin shallow. Flesh white, melting, juicy, with a fine, aromatic flavour. If not picked early, it is disposed to rot at the core. Ripens last of August.

Van Buren. Wilder MS.

An American seedling, raised by Governor Edwards, of New Haven, for which we are indebted to Colonel Wilder, of Boston. It is a most beautiful fruit, of second quality only for the table, but very excellent for baking and preserving, and kitchen use generally.

Fruit large, obovate, rather flattened at the eye. Skin clear yellow, with a rich, orange-red blush next the sun, regularly dotted with conspicuous, brownish specks, and slightly touched with greenish and russet spots. Flesh white, crisp, sweet and perfumed.

Van Marum. Bivort.

Grosse Calebasse of Langelier. Triomphe d'Hasselt.
Grosse Calebasse Noisette?

Fruit very large, gourd-form. Skin covered with bronze, lightly coloured in the sun, and dotted with greyish red. Flesh white, coarse and stringy, half melting, not very juicy, but sweet, and pleasantly perfumed. (For baking.) October, November. (Al. Pom.)

Vanquelin.

Poire Seutin?

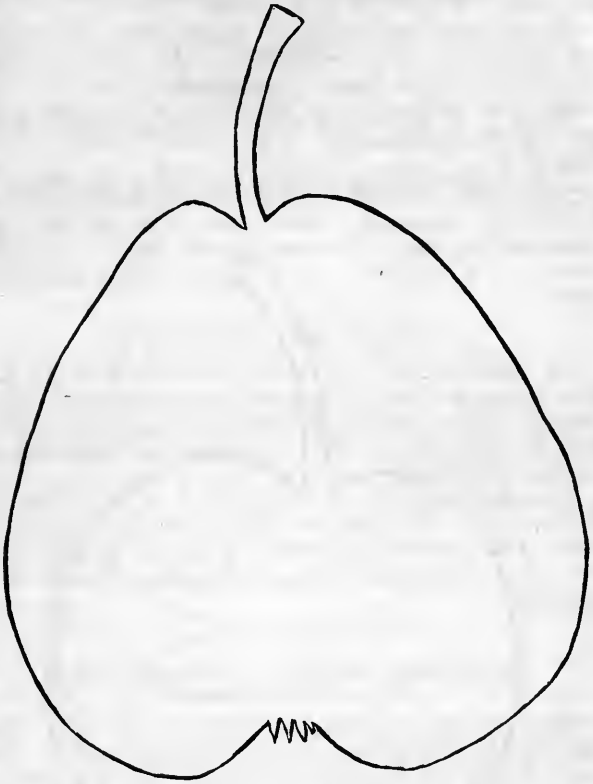
Fruit large, oval, swelled at the middle, obtuse at the stalk. Flesh slightly coarse, juice abundant. Flavour rich, subacid, perfumed. November to March. (Hov. Mag.)

Van Assche. Bouvier.

Van Assene (*erroneously*). Van Assche.

Tree very vigorous, productive; young shoots reddish-brown.

Fruit medium, turbinate, inclining to conic. Skin yellowish, sprinkled with numerous brown and red dots, with a warm cheek. Stalk short, rather stout, and obliquely planted with-



Van Assche.

out depression. Calyx partially closed, basin broad and deep. Flesh white, juicy, melting, with a rich, aromatic flavour. Ripens October, November.

Verte Longue of Angers.

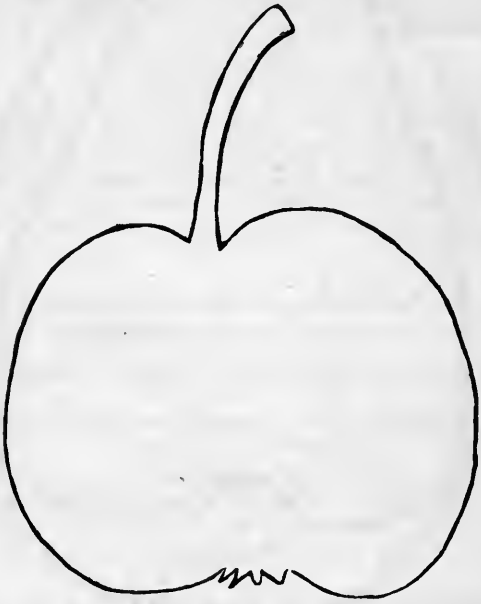
Fruit exceedingly elongated, pyriform, tapering from centre towards base and crown. Colour green. Stalk of medium length, stout, inserted at a great inclination. Calyx small, in a very small basin. Flesh green, juicy, with a good, sweet, vinous flavour. Ripens a little later than "Verte Longue" of Duhamel. This last, we suspect, may be synonymous with "Green Fig."

Verte Longue. Coxe.

Monille Bouche L.H.S. Long Green. *Bivort.*

An old variety described by Duhamel. Tree very vigorous and productive. Fruit turbinate, somewhat elongated. Stalk of medium length, nearly perpendicularly inserted. Calyx small, almost without basin. Skin remains green when fully ripe. Flesh melting, juicy, with a pleasant, spicy flavour. September.

Verte Longue Panache resembles the above, but striped with yellow.

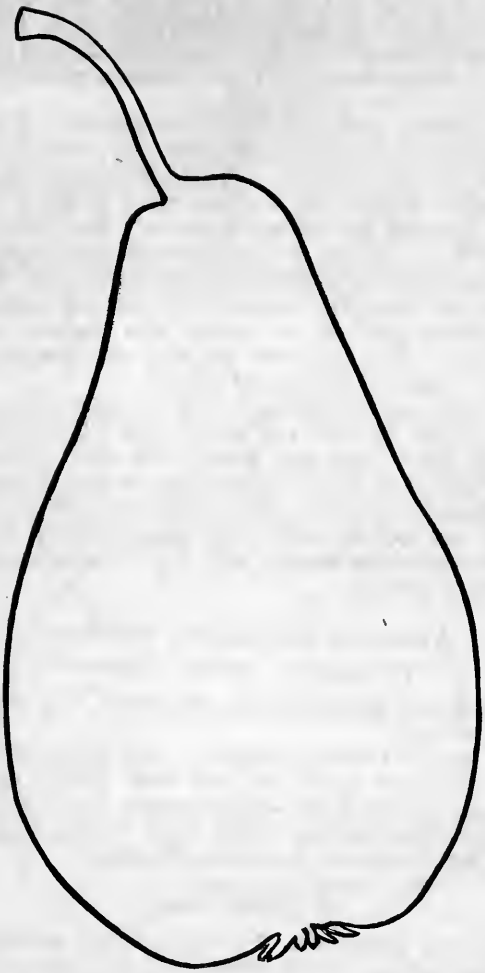


Vezouziere.

Vezouziere. Thomp. Bivort.

A seedling of Leon le Clerc, vigorous and productive.

Fruit medium or below, nearly globular, slightly oval, angular. Skin yellowish, sprinkled with minute grey and green dots. Stalk long, curved, inserted in a broad, shallow cavity. Calyx open, persistent, in a wide, uneven basin. Flesh very juicy, melting, sweet and agreeable. September.



Vicar of Winkfield.

VICAR OF WINKFIELD. Thomp.

Le Curé, } *of the*
Monsieur le Curé, } *French.* Clion. *Kenrick.*

This large and productive pear was discovered not long since, as a natural seedling, in the woods of Clion, France, by a French *curate*, whence it obtained in France the familiar name of *Le*

Curé, or *Monsieur le Curé*. A short time after it became known at Paris, it was imported into England by the Reverend Mr. Rham, of Winkfield, Berkshire, and cultivated and disseminated from thence, becoming known in the neighbourhood of London as the *Vicar of Winkfield*.

With regard to its merits there is some difference of opinion —some persons considering it a fine fruit. It is always remarkably large, fair, and handsome. We think it always a first rate baking pear. Occasionally we have tasted it fine as a table pear, but generally it is astringent, and only third rate for this purpose. If ripened off in a warm temperature, however, it will generally prove a good, second rate eating pear. But its great productiveness, hardiness, and fine size, will always give it a prominent place in the orchard as a profitable market cooking pear. The tree grows thriftily, with drooping fruit branches. Shoots diverging, dark olive.

Fruit large and long-pyriform, often six inches long, and a little one-sided. Skin fair and smooth, pale yellow, sometimes with a brownish cheek, and marked with small brown dots. Stalk an inch or an inch and a half long, slender, obliquely inserted without depression. Calyx large, open, set in a basin which is very slightly sunk. Flesh greenish-white, generally juicy, but sometimes buttery, with a good, sprightly flavour. November to January.

Vicomte de Spoelberch. Van Mons.

De Spoelberg. Delices, Van Mons.

Tree vigorous, productive; has not proved very good, may improve with age.

Fruit medium, roundish, turbinate. Skin pale yellow, covered with numerous small dots, and small patches of russet. Stalk long, curved, fleshy at its insertion, with slight russet. Calyx open, basin shallow. Flesh white, buttery, juicy, melting, not high flavoured. November, December.

Wadleigh. Cole.

Origin, New Hampshire. Fruit rather small, roundish, obovate. Skin yellow. Stalk short, stout, inserted in a small plaited basin. Flesh melting, juicy and delicious. Tree hardy and vigorous. Last of August and first of September. (Cole.)

Walker. Van Mons.

135 of Van Mons.

Tree hardy, but not a rapid grower; forms a fine pyramid; shoots very stout, greyish-brown.

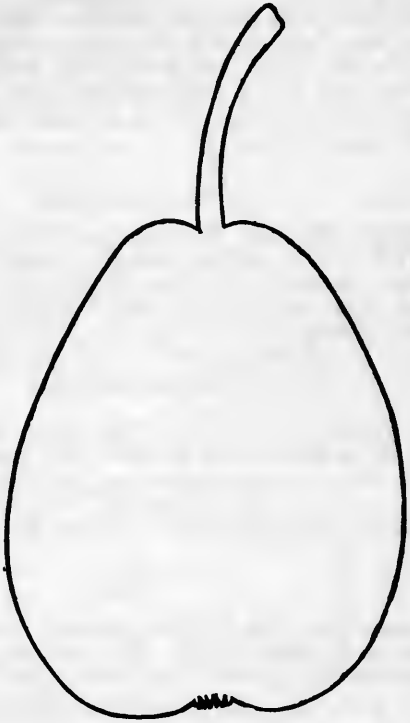
Fruit large, exceedingly elongated, pyriform. Skin yellow,

with a crimson cheek. Stalk long, enlarged at its junction with branch and fruit. Calyx in an uneven basin. Flesh buttery, rich, with a peculiar almond flavour. Ripens well, and keeps from September to December.

Washington. Man. Ken.

Robinson.

A beautiful, oval, American pear of very excellent quality, which is a native of Delaware. It was discovered there in a thorn hedge, near Naaman's creek, on the estate of Colonel Robinson, about fifty years ago. It is one of the most attractive and distinct of our native dessert pears. Young shoots slender, diverging, reddish-brown.



Washington.

Fruit of medium size, oval-obovate, regularly formed. Skin smooth, clear lemon-yellow, with a sprinkling of reddish dots on the sunny side. Stalk about an inch and a half long, inserted even with the surface, or with a slight depression. Calyx small, partly closed, and set in a shallow basin. Flesh white, very juicy, melting, sweet and agreeable. Middle of September.

Wendell.

A seedling of Van Mons, named in honour of Dr. H. Wendell, Albany, N. Y. Tree vigorous, upright.

Fruit of medium size, pale yellow, with tracings and sometimes large patches of russet, often with a bright red cheek

next the sun. Flesh melting and juicy, good, but not high flavoured. Middle of August to middle of September. (Robert Manning MS.)

Westcott. Hort.

A native of Rhode Island. Tree vigorous, an early bearer, very productive.

Fruit medium, irregular, globular. Stalk long, curved, rather stout, fleshy at its insertion, in a cavity of moderate depth, with a lip. Calyx very small, in a shallow, furrowed basin. Colour light yellow, with numerous grey dots. Flesh white, juicy, nearly melting, coarse, granular, sweet and agreeable. September, October.

Wharton's Early.

Origin unknown. Tree vigorous, wood yellowish-brown.

Fruit above medium, obovate, pyriform. Skin yellowish-green, with russet dots. Stem long, cavity slight. Calyx open. Flesh white, melting, juicy, sweet. Ripe middle to last of August. (Elliott.)

White's Seedling.

Introduced by C. B. Lines, New Haven, Conn.

Fruit medium, round, obovate. Skin greenish-yellow, sometimes russeted. Stem rather long and slender, obliquely inserted into a small fleshy excrescence. Calyx open, basin shallow. Flesh fine, juicy, and good. (Ad. Int. Rep.)

Wiest.

From Pennsylvania. Fruit medium, nearly globular, somewhat oval. Skin green, with numerous dark-green dots. Stalk rather long, inserted in a moderate cavity. Calyx open, basin shallow and irregular. Flesh whitish, juicy, melting, subacid, pleasant. September.

Williamson.

Origin on the farm of Nicholas Williamson, Long Island.

Tree hardy, vigorous, and a good bearer. Fruit medium, obovate, narrowing rapidly to the stalk, which is stout and short in a moderate cavity. Calyx entirely caducous, leaving but a scar; basin rather deep and abrupt. Skin golden yellow, thickly sprinkled with russet dots, and considerably russeted at base and crown. Flesh yellowish-white, fine grained, and nearly melting, juicy, sugary, vinous, rich. October. (Hort.)

Williams' Early. Man.

A native fruit, which originated on the farm of Mr. A. D. Williams, of Roxbury, Mass.

Fruit small, roundish-turbinate, regularly formed. Skin bright yellow, thickly sprinkled with rich scarlet dots on the sunny side. Stalk an inch and a half long, straight, a little fleshy where it joins the fruit. Calyx very short, open; basin shallow, and slightly plaited. Flesh white, a little coarse-grained at first, but, when ripe, very juicy, half buttery, rich, with a slightly musky flavour. First to the middle of September. Young wood dark.

Willermoz. Bivort.

Forms a fine tree, very much covered with spines. Fruit large, pyriform. Skin golden yellow at maturity, coloured on the side of the sun. Flesh white, fine, melting, juice abundant, sugary, and agreeably perfumed. October, November. (Al. Pom.)

Wilmington.

A seedling of Passe Colmar, raised by Dr. Brinckle of Philadelphia.

Fruit medium, obtuse-pyriform, somewhat compressed at the sides, sometimes roundish-obovate. Skin cinnamon russet, with patches of greenish-yellow on the shaded side, and sometimes faint traces of carmine on the part exposed to the sun, with occasionally a number of black dots encircled by a carmine margin. Stem somewhat variable in length, obliquely inserted in a small cavity, sometimes without depression. Calyx medium, with short, erect segments, set in a rather large, sometimes slightly furrowed basin. Flesh fine, melting and buttery. Flavour rich and saccharine, with the delicious aroma of the Passe Colmar—"Best." Season September. (W. D. Brinckle, MS.)

Wilbur.

The Wilbur is a native fruit, which originated in Somerset, Mass. Shoots slender, yellowish-brown.

Fruit of medium size, obovate. Skin dull green and russeted. Stalk three-fourths of an inch long, inserted with little or no depression. Calyx prominent, basin scarcely sunk. Flesh melting, juicy, sweet and pleasant, but slightly astringent. September.

Wilkinson. Man. Thomp.

The original tree grows on the farm of Mr. J. Wilkinson,

Cumberland, Rhode Island. The tree is very thrifty, hardy, and a regular bearer. The shoots are long, upright, stout, greenish-yellow.

Fruit of medium size, obovate, inclining to oval. Skin smooth and glossy, bright yellow, dotted with brown points. Stalk an inch and a quarter long, rather stout, inserted with little or no depression. Calyx small, open and firm, set in a shallow basin. Flesh very white, juicy, melting, sweet and rich, with a slight perfume. October to December.

Winter Seckel.

Origin, near Fredericksburg, Va.; introduced by H. R. Roby.

Fruit medium, regularly formed, obovate. Skin dull yellowish-brown, somewhat russeted, with a red cheek. Stalk long, slender, curved. Flesh white, fine grained, buttery, very juicy, melting, with a very rich, sweet, aromatic flavour. February. (H. R. Roby.)

Wredow. C. Hort. A.

Tree moderately vigorous, very productive.

Fruit medium, oblate, turbinate, inclining to pyriform. Skin russet, on greenish-yellow ground. Stalk long, inserted without cavity. Calyx small and open; basin very shallow. Flesh buttery, juicy, melting, with a very rich, vinous flavour. September, October.

Zephirin Grégoire. Grégoire.

Tree moderately vigorous, very productive.

Fruit small, roundish, somewhat turbinate. Skin smooth, shining, bright green, becomes lemon-yellow at maturity. Flesh white, fine, melting, buttery, juice plentiful, sugary, very agreeably perfumed. Begins to mature in November, and continues until February. (An. Pom.)

Zephirin Louis Grégoire. Grégoire.

Raised by Grégoire. Tree of moderate growth, productive.

Fruit of medium size, turbinate. Skin yellow, with a crimson cheek, and slightly russeted about the stalk, which is short and thick, inserted in a small cavity. Eye small, basin shallow. Flesh white, melting, very juicy, and delicately perfumed. December. (Al. Pom.)

Zoar Beauty. Elliott.

Zoar Seedling.

A native of Ohio. Tree vigorous, dark-brown shoots, an ear-

ly and abundant bearer. Fruit below medium, depressed, pyriform. Colour light yellow, with greenish spots, red in the sun, with deep red spots. Stem generally long, slender, curved, plaited, with slight depression on one side. Calyx large, basin shallow. Flesh yellowish-white, a little coarse, juicy, sweet. Ripe early in August. (Elliott.)

CLASS III.

Comprises those superseded by better sorts, some of which, however, are adapted to certain localities.

Althorpe Crassane. Thomp. Lind.

Fruit medium, roundish-ovate. Skin pale green. Flesh white, buttery and quite juicy, not rich, slightly perfumed. Ripe October, November.

Amadotte. Thomp.

Madotte. Beurré Knox?

Fruit rather large, pyriform. Skin pale yellow. Stalk medium, cavity small. Calyx open, basin shallow and uneven. Flesh whitish, coarse, juicy, vinous; variable, sometimes astringent. Ripe October.

Ambrosia. Lind. Thomp.

Early Beurré.

A French pear of medium size, roundish-obovate. Skin greenish-yellow, a little russeted. Flesh buttery, without much flavour. September.

Angleterre. Thomp.

English Beurré. *Lind.* Beurré d'Angleterre. *Nois.*

Fruit medium, pyriform. Skin dull light green, brownish-russet cheek. Flesh white, buttery and melting, full of juice, and of pleasant, though not high flavour. Middle of September.

Aston Town. P. Mag. Thomp. Lind.

Fruit small, roundish-turbinate. Skin pale yellowish, with brown specks. Flesh soft, buttery, moderately sweet, perfumed. Middle and last of September.

Beau Present d'Artois.

Fruit large, pyriform. Skin light yellow, with numerous

brown dots, and patches of russet. Stalk medium, in a slight cavity. Calyx small, partially closed in a shallow basin. Flesh granular, melting, sweet; scarcely good; apt to rot at the core. Ripe last of September.

Belmont. Thomp.

An English kitchen pear.

Fruit roundish-obovate, medium. Skin yellowish-green, a little brownish next the sun. Flesh rather coarse, juicy, and sweet. October.

Belle de Bruxelles. Nois. Thomp.

Belle d'Août.

A large and handsome fruit, of poor quality.

Fruit large, pyriform. Skin pale yellow, with a soft red cheek when fully exposed. Flesh white, sweet, and slightly perfumed. Middle of August.

Bergamotte d'Hollande. Thomp. Duh.

Holland Bergamot. *Lind.*	Bergamotte de Fougère.
Beurré d'Alençon.	Amoselle.
Bergamotte d'Alençon.	Lord Cheeney's.
Jardin de Jougers.	Sarah.

An excellent kitchen fruit, which will keep sound till May or June. Shoots stout, diverging, olive-brown.

Fruit rather large, roundish. Skin green, much marbled and covered with thin brown russet, but becoming yellowish at maturity. Flesh white, crisp, with an abundant, sprightly, agreeable juice.

Bergamotte Suisse. O. Duh. Lind.

Swiss Bergamot. *Lind.*

A very pretty, roundish, striped pear. Branches striped.

Fruit of medium size, roundish, a little inclined to turbinate. Skin smooth, pale green, striped with yellow and pale red. Flesh melting, juicy, sweet and pleasant. October.

Bergamot, Easter. Mill. Lind. Thomp.

Bergamotte de Pâques. *Duh.*	Winter Bergamot.
Bergamotte d'Hiver.	Paddrington.
Bergamotte de Bugi.	Royal Tairling.
Bergamotte de Toulouse.	Terling.
Robert's Keeping.	St. Herplain d'Hiver.

An old French variety. Tree vigorous and productive. Keeps well, and a good cooking fruit.

Fruit medium, roundish-obovate, narrow at the stalk. Skin

smooth, pale green, thickly speckled with conspicuous, light grey dots, and becoming pale yellowish at maturity. Flesh white, crisp, juicy, with a sprightly flavour. February to May.

Bergamot, Autumn. Mill. Lind. Thomp.

English Bergamot.
Common Bergamot (*of England*).
York Bergamot.
English Autumn Bergamot

Fruit small, roundish and flattened. Skin roughish green. Flesh greenish-white, coarse-grained at the core, juicy, sugary. September.

The Bergamotte d'Automne of the French is a distinct fruit from this. Skin light yellowish-green, brownish-red cheek. Flesh breaking, juicy, and refreshing, but not high flavoured. A second rate fruit.

Bergamot, Early. Thomp. Lind. P. Mag.

A second rate French sort. Fruit medium, roundish. Skin pale yellowish-green. Flesh quite juicy, crisp, with a pleasant, sweet flavour. Ripe about the 20th of August.

Bergamot, Summer. Thomp. Coxe.

The Summer Bergamot is an old foreign variety, of small size and second quality. The tree is of feeble growth.

Fruit quite small, round. Skin yellowish-green. Flesh juicy, and pretty rich in flavour, but quickly becomes mealy and dry. Last of July.

There is a *Large* Summer Bergamot, quite distinct from the above. Flesh breaking and half buttery, not rich. September. The tree grows and bears finely.

Bergamot, Hampden's. Thomp.

Summer Bergamot. *Lind. Mill.*
Bergamotte d'Angleterre.
Fingal's.
Bergamotte d'Eté. *O. Duh.*
Scotch Bergamot, } *ac. to*
Ellanrioch, } *Thomp.*

Fruit large, roundish, yellow. Flesh white, breaking, a little coarse in texture, but, if gathered early and ripened in the house, it becomes half buttery, sweet and agreeable. First of September.

Bezi d'Héri. Thomp.

Bezi Royal. Französische Rumelbirne.

This is a very excellent winter stewing pear, which bears most abundantly. It is of no value for the dessert.

Fruit medium, roundish. Skin greenish-yellow, with a red dish blush. Flesh tender, juicy, free from grit, with an anise like flavour. Fit for cooking from October to January.

Beurré Le Fevre.

Beurré de Mortefontaine.

Fruit large, irregularly oval, very transient, not valuable.

Beurré Bollwiller.

A baking pear of February and March, not valuable.

Beurré Romain. Thomp. N. Duh.

Of foreign origin. Fruit of medium size, regularly formed, obovate. Skin pale yellowish-green; flesh white, juicy, sweet and agreeable. September to October.

Beurré Seutin. Bouvier.

Fruit medium, pyriform, inclining to oval, irregular or angular. Colour green, sprinkled with russet, sometimes shaded with dull crimson. A late-keeping, dry cooking pear.

Beurré Kenrick. Man. in Hov. Mag.

No. 1599 of Van Mons.

A Flemish seedling, of medium size. Skin greenish-yellow, russet spots. Flesh juicy, sweet and buttery. September.

Beurré Knox. Thomp. Lind.

A Flemish variety.

Fruit large, oblong, obovate. Skin pale green, russet on one side. Flesh tender and soft, juicy and sweet, but not high flavoured. Last of September.

Bezi des Vétérans. Van Mons.

Poire Rameau? *Bouvier.*

Tree vigorous, productive; young wood deep green.

Fruit large, obtuse-pyriform. Skin light yellow, thickly sprinkled with grey dots, and slight patches of russet. Flesh firm, not tender; chiefly for cooking. December to February.

Bishop's Thumb. Thomp. Lind.

A long, oddly shaped English pear. Fruit rather large, oblong and narrow, and tapering irregularly. Skin dark yellowish-green, having a russet red cheek. Flesh juicy, melting, with a vinous flavour, somewhat astringent. October.

Black Worcester. Thomp.

Black Pear of Worcester. *Lind. Man.* Parkinson's Warden.

A market fruit, esteemed for cooking. The branches incline downwards with the weight of the fruit. Young shoots dark olive, diverging. Fruit large, obovate or oblong. Skin thick, rough green, nearly covered with dark russet. Flesh hard and coarse, but stews and bakes well. November to February.

Bleecker's Meadow. Ken. Pom. Man.

Large Seckel. Heidelberg.
Feaster. Spice Butter.
Meadow Feaster.

A native fruit, said to have been found in a meadow in Pennsylvania. It is a handsome, hardy fruit, and bears large crops, but it has been sadly overpraised as to quality.

Fruit small, roundish. Skin bright, clear yellow, with crimson dots on the sunny side. Flesh very white, firm, with a peculiar musky or wasp-like aroma, and spicy taste, but mostly remains crisp and hard. Stalk straight and stiff, basin shallow. Calyx open and reflexed. October and November.

Bon Chrétien, Flemish. Thomp.

Bon Chrétien Turc.

The Flemish Bon Chrétien is an excellent cooking pear; not very productive.

Fruit of medium size, obovate. Skin pale green, and brown on the side exposed to the sun. Flesh crisp, juicy, and stews very tender. November to March.

Bon Chrétien, Spanish. Mill. Lind. Thomp.

Bon Chrétien d'Espagne. Spina.

Fruit large, pyriform. Skin at maturity deep yellow, with a brilliant red cheek, and dotted with reddish-brown specks. Flesh white, crisp, or half breaking, good for cooking.

Boucquia. Hov. Mag.

Beurré Boucquia. *Ken.*

A Flemish pear; fruit rather large, oval, turbinate. Skin pale yellow. Flesh yellowish-white, rather astringent, and liable to rot at the core. October.

Bourgemester.

Fruit large, pyriform. Skin pale yellow, with large grey dots, russeted around the eye. Flesh tender, juicy, and astringent. November. Wood cracks and cankers badly.

Brougham. Thomp.

An English variety; fruit roundish, oblate. Skin greenish-yellow, some russet. Flesh coarse, astringent. November.

Burnett. Ken.

Raised by Dr. Joel Burnett, of Southborough, Mass.

Fruit large, obtuse-pyriform. Skin pale yellow. Flesh greenish-white, a little coarse-grained, but juicy, sweet and good. First of October.

Burlingame.

Origin, Ohio. Fruit medium, oblate, yellow. Flesh coarse. Flavour poor. September.

Calebasse Tongard.

Tree vigorous and productive. Fruit large and handsome; excellent in Europe, may not be suited to our climate. October, November. (An. Pom.)

Calebasse. Thomp. Lind.

Calebasse Double Extra. Calebasse d'Hollande.
Beurré de Payence.

The Calebasse is a very grotesque-looking Belgian fruit, named from its likeness to a calabash, or gourd.

Fruit of medium size, oblong, a little crooked and irregular, or knobby in its outline. Skin rough, dull yellow, becoming orange russet on the sunny side. Flesh juicy, crisp, a little coarse-grained, but sugary and pleasant. Middle of September.

Catillac. Mill. Duh. Thomp.

Grande Monarque. Katzenkop.
Cadillac. Groote Mogul.
40 Ounce.

The Catillac is an old French baking and stewing pear, of very large size and of good quality for these purposes. In rich soil the fruit is often remarkably large and handsome.

Fruit very large, broadly-turbinate (flattened-top shaped). Skin yellow, dotted with brown, and having sometimes a brownish-red cheek at maturity. Stalk stout, about an inch long, curved, and placed in a very narrow, small cavity. Calyx short and small, and set in a wide, rather deep plaited basin. Flesh hard and rough to the taste. November to March.

Capucin. Van. Mons.

Capuchin.

One of Van Mons' seedlings. Young shoots stout, diverging, dark coloured.

Fruit pretty large, oval. Skin pale yellow, a red cheek. Flesh greenish, juicy, crisp, sugary and good. October.

Chaumontel. Lind. Thomp. Nois.

Bezi de Chaumontelle. *O. Duh. Poit.* Beurré d'Hiver. *Roz.*
Winter Beurré. Oxford Chaumontel.

This old French pear takes its name from the village of Chaumontelle, in France, and succeeds well in Europe, but has not proved good here, except in very favourable situations; it may be valuable south.

Fruit large, pyriform. Skin a little rough, yellowish in the shade, dotted with many brownish-russet dots, and brownish-red or rich deep red in the sun. Stalk about an inch long, inserted moderately deep, in an angular cavity. Calyx placed at the bottom of a deep, uneven, angular basin. Flesh buttery and melting, sugary, with a peculiar and agreeable perfume. November to February.

Charles of Austria. Thomp. Lind.

Charles d'Autriche.

A Belgian pear. Raised by Van Mons. Young shoots stout, upright, yellow-olive.

Fruit large, roundish. Skin greenish-yellow, a little russeted. Flesh white, tender, quite juicy, astringent. October.

Chelmsford.

Fruit large, yellow, red cheek. Flesh coarse, sweet, good for cooking, very productive, strong grower. Last of September.

Clara. Van Mons.

Claire. *Nois.*

One of Van Mons' seedlings. It is of medium size, oval-pyriform. Skin clear yellow, dotted with red. Flesh white, melting, very juicy and sweet, relieved by a slight acid. September and October.

Clinton. Man. in H. M.

Van Mons, No. 1238.

A second rate fruit. Large size; light yellow skin; flesh soft, buttery and good, but not high flavoured. Middle of November.

Colmar Neill. Thomp.

Fruit large, obovate. Skin pale yellow. Flesh white, buttery, melting, of good flavour. Ripens at the middle of October.

Colmar d'Été. Thomp. Bivort.

Colmar Précoce. Autumn Colmar.

Fruit conic. Skin greenish-yellow. Stalk in a cavity. Calyx open, in a moderate basin. Flesh coarse, juicy, little astringent; rots at the core. First of September.

Colmar. O. Duh. Lind. Mill.

De Maune. Incomparable.
Winter Virgalieu, (*of some.*)

Fruit medium or large, obtuse-pyriform. Skin light yellow. Flesh melting, half buttery, juicy, sweet. December.

Colmar Epine. Van Mons. Man. in H. M.

An agreeable, juicy pear, sent to this country by Van Mons, and originated by him. Young shoots stout, upright, brown.

"Fruit large, roundish-oblong, tapering, gradually, to an obtuse point at the stem, which is one inch long; colour greenish-yellow; flesh white, sweet, melting, juicy, and good." Middle of September.

Colmar d'Aremberg.

Kartofel. Cartofel.

Fruit large, turbinate, pyriform. Skin green, becoming yellow; unworthy of cultivation as a table fruit. November.

Comprette. Van Mons.

A Flemish seedling.

Fruit small, obtuse-pyriform. Skin yellowish-green. Flesh white, buttery, with a sugary perfumed juice. October, November.

Comstock.

Comstock Wilding.

Fruit of medium size, regularly formed, obovate. Skin smooth and glossy, bright yellow, with a crimson cheek. Flesh white, crisp, and if well ripened, with a sweet and sprightly flavour. November.

Commodore. Man. in Hov. Mag.

Van Mons, No. 1218.

A Belgian seedling. Branches slender.

Fruit medium, very regular-obovate. Skin yellow, marked with a little red, some russet in patches. Flesh buttery, melting, with a sweet and good flavour. Last of October to last of November.

Copia.

A Philadelphia seedling. Fruit large. Skin yellow. Flesh rather coarse, but sugary. September to October.

Crassane. Thomp. Lind.

Bergamotte Crassane. Crésane.
Beurré Plat.

Fruit large, roundish. Skin greenish-yellow. Flesh whitish, juicy, soft, sweet, and tolerably pleasant. October, and may be kept for a month longer.

Crawford. Thomp. Man.

A Scotch fruit, of second quality; the chief merit of which is its hardiness in a cold climate.

Fruit middle-sized, obovate. Skin light yellow, tinged with brown in the sun. Flesh white, buttery, sweet, and of a tolerably pleasant flavour. August.

Croft Castle. Thomp.

An English variety, peculiar in its shape, and especially so in its flavour; very productive. Fruit medium. Skin pale greenish-yellow. Flesh juicy, crisp, and sweet. October.

Cumberland. Man. Ken.

A native fruit, in Cumberland, Rhode Island.

Fruit rather large, obovate. Skin orange yellow, pale red cheek. Flesh white, buttery, and tolerably juicy. September and October.

D'Amour.

Ah! Mon Dieu. *O. Duh. Lind.* Mon Dieu.
Poire d'Amour.

A French pear of small size, obovate. Skin pale yellow, nearly covered with red. Flesh white, juicy, and sweet. October.

Doyenne Rose. C. A. H.

Fruit above medium, obovate, obscurely pyriform. Skin yellow, beautifully shaded with crimson. Stem short; cavity small. Calyx small; deep, regular basin. Flesh white, coarse, granular, with very little flavour. Rots at the core. Last of October.

Duchesse de Mars. Thomp.

Duchesse de Mars.

A French variety, of nearly medium size, obovate. Skin dull yellow, with a brown russet. Flesh melting, juicy, with a perfumed flavour. October, November.

Dunmore. Thomp.

The Dunmore is a large pear, raised by Knight. It is a strong-growing tree, and bears exceedingly well.

Fruit large, oblong-obovate, rather swollen on one side. Skin greenish, dotted and speckled with smooth, brownish-red russet. Flesh yellowish-white, buttery, melting, with a rich flavour; often astringent, and rots at the core.

Early Denzalonia.

Silliman's Russet?

American. Origin unknown. Fruit small, roundish-oblate. Skin grey or brown russet. Stalk short and thick, small, open cavity. Calyx open; basin shallow. Flesh white, coarse, sweet, and rich; sometimes without flavour, and sometimes very good. Last of August.

Eastnor Castle.

Fruit medium, roundish. Skin green, and thick. Flesh greenish-white, juicy, melting. December.

Echassery. O. Duh. Lind. Nois.

Echasserie. *Thomp.* Bezi L'Echasserie.
Bezi d'Echassey. Jagdbirne.

A French pear of second quality; productive.

Fruit of medium size, roundish-oval. Skin smooth, pale green, yellowish at maturity, slightly dotted with grey. Flesh melting, buttery, with a sweet, perfumed flavour. January to April.

Edwards.

Raised by Governor Edwards. A very good baking fruit.

Fruit medium, nearly round, Bergamot-shape. Colour yellow, sometimes shaded with crimson. Stalk short and thick. Calyx closed; basin deep, uneven. Flesh coarse, granular, not tender. September.

Emerald. Thomp.

A Belgian variety, variable, sometimes good.

Fruit of medium size, obovate, rather square in figure, one-sided, and somewhat knobby. Skin green, dotted with brown, and having a pale-brown cheek. Flesh melting, buttery, and sweet. December.

Épine d'Été. Thomp. Lind.

Summer Thorn. Fondante Musquée.
Satin Vert.

Fruit medium, pyriform. Skin greenish-yellow. Flesh tender, melting, with a sweet, musky, peculiar flavour. Last of August and first of September.

Eyewood. Thomp.

A seedling of Mr. Knight's. Tree vigorous and hardy.

Fruit of medium size, oblate or flattened; skin much covered with russet. Flesh buttery, rich, and excellent.

Fine Gold of Summer. Coxe.

Fin Or d'Été.

Fruit small, roundish. Skin yellow, with a beautiful red cheek. Flesh juicy, good flavour, not rich; very productive. Middle of August.

Forme de Délices. Thomp.

A new Flemish pear, received from the London Horticultural Society. Young shoots stout, upright, yellowish-green.

Fruit medium, obovate. Skin rough, yellowish, with dull russet. Flesh buttery, melting, somewhat dry, but sweet. Last of October.

Fortunée. Bon. Jard. Thomp. Al. Pom.

Episcopal. La Fortunée de Parmentier.
La Fortunée de Paris. Bergamotte Fortunée.

Raised by M. Parmentier of Enghien; has so far only proved a cooking fruit.

Fruit below medium size, roundish, depressed. Skin covered with grey russet. Flesh white, juicy and sprightly, but not high flavoured. December to April.

Foster's St. Michael.

Fruit medium, roundish-ovate. Stalk medium, in a small cavity. Calyx nearly closed, stiff; basin shallow. Skin yellow. Flesh coarse, somewhat astringent. September.

Franc Réal d'Hiver. Thomp.

Franc Réal. *Lind. O. Duh.* Fin Or d'Hiver.

The Winter Franc Réal is a good cooking pear, bears well, and grows upright, with wavy leaves.

Fruit of medium size, roundish. Skin yellow speckled with russet brown, and having a brownish cheek. Flesh crisp and firm. In use from December to March.

Fréderic de Wurtemburg. Van Mons. Nois.

Frederick of Wurtemburg. Vermilion d'Été.

One of Van Mons' seedlings; a very handsome and sometimes very good fruit, but often poor; growth unthrifty.

Fruit large, one-sided, pyriform, rather uneven in its surface. Skin deep yellow at maturity, with a remarkably rich crimson cheek. Flesh white, juicy, melting and sweet; and when in perfection, buttery and delicious. September.

Gendesheim. Thomp. Lind.

A Flemish pear, of not very good quality.

Fruit large, obtuse-pyriform. Skin pale greenish-yellow, a little russet. Flesh rather gritty near the core, elsewhere buttery. October and November.

Gilogil. Lind. Thomp.

Gile-o-gile. Garde d'Ecosse.
Poire à Gobert. Jilogil.

A large, showy French pear, only fit for cooking.

Fruit large, roundish. Skin thickly covered with russet, with a reddish-russet cheek. Flesh very firm and crisp. November to February.

Great Citron of Bohemia. Man. in H. M.

Citronenbirne Bömische grosse, punctirte. *Baum. Cat.*

Fruit small, oblong, yellow. Flesh sugary, juicy, a little coarse-grained, and not much flavour. Ripens the last of September.

Green Pear of Yair. Thomp.

Green Yair.

The green pear of Yair is a European fruit, which proves but little worthy of cultivation here.

Fruit of medium size, obovate; skin green; flesh juicy, but not high flavoured or rich. September

Gustin's Summer.

Fruit small, roundish. Skin yellow. Flesh white sweet, without much flavour. First of September.

Harrison's Large Fall.

Rushmore's Bon Chrétien.

Fruit Large, pale yellow. Great bearer. Fine old baking pear, but not a table fruit.

Newtown Vergelieu.

Native of Long Island, a baking pear. November and December.

Hessel. Thomp.

Hazel.

A Scotch pear, very productive. Fruit small, obovate. Skin yellowish-green. Flesh whitish, juicy, of little or no value. First of September.

Huguenot.

A fruit of second quality, originated by Mr. Johonnot, of Salem. It bears abundantly, but is rather dry, and not worthy of general cultivation. Young shoots strong, upright, yellowish-brown.

Fruit medium, roundish. Skin smooth, pale yellow, sprinkled with large spots of bright-red. Flesh white, fine-grained, half breaking, sweet, but wanting in flavour and juice. October.

Hull. Hov. Mag.

Originated in the town of Swanzey, Mass.

Fruit of medium size, obovate. Skin yellowish-green, a good deal sprinkled with russet. Flesh white, a little coarse-grained, but melting, juicy, with a sweet, slightly perfumed flavour.

Hunt's Connecticut.

An American fruit for kitchen use. Medium, oblate, yellowish-green, coarse, dry, and sweet.

Ives' Winter.

Raised by Prof. Ives, of New Haven. Fruit medium, depressed, pyriform. Skin thick, yellowish, sprinkled with russet. Stem large and long, in an abrupt cavity. Calyx open, in a large basin. Flesh white, coarse, and granular. December.

Jalousie. Duh. Nois. Thomp.

Fruit rather large, roundish to obovate, and more frequently pyriform. Skin rough, of the deepest russet; ruddy in the sun. Flesh a little coarse-grained, soft, sweet, and of pleasant flavour. Last of September.

King Edward's. Thomp.

Jackman's Melting. *Man.*

Fruit large, pyriform, tapering gradually to the stalk. Skin rather rough, yellow, red cheek. Flesh yellowish, buttery, melting, and good, when the season is favourable. October.

King's Seedling.

Medium size, oblate, angular. Skin yellowish-green, rough. Stalk in a cavity. Calyx open; basin shallow. Flesh greenish-white, granular, juicy, sugary, aromatic, perfumed. October.

Knight's Monarch. Thomp.

This pear, so far, has proved entirely worthless. Very productive, a late keeper, but does not ripen. It may succeed south.

Knight's Seedling. (R. I.) Hov. Mag. N. E. Jar.

Raised by Mr. Knight, of Rhode Island.

Fruit medium, oblate, turbinate. Skin yellowish-green, rough. Stalk long, inserted by a slight cavity. Calyx closed, in a shallow basin. Flesh juicy and sweet. October.

Léon le Clerc. Thomp.

Léon le Clerc de Laval. *Nois.* Blanc-per-ne.

This is a good cooking pear, large size, and very distinct from the celebrated "Van Mons Léon le Clerc." In favourable seasons it is of tolerable quality for the table.

Fruit large, obovate, but swollen at the crown, and narrowing a good deal at the stalk. Skin yellow, smooth, a little glossy, with russety spots at either end, and some large dots. Calyx large, with long, straight, narrow divisions, and placed in a slight basin. Stalk an inch and a half long, pretty stout, swollen at its point of insertion. Flesh white, juicy, crisp, and rather firm, with a tolerably pleasant flavour. December to April.

LITTLE MUSCAT. Thomp. Lind. Mill.

Little Musk. } Petit Muscat } *Coxe.* Primitive. } Muscat Petit. } Sept-en-gueule. } *O. Duh.*

This very little French pear, well known in many of our gardens, is allowed a place there, chiefly, because it is the earliest of all pears, ripening at the beginning of July. Fruit very small, turbinate. Skin yellow, with a dull, red cheek. Flesh breaking, sweet, with a slight musk flavour. Shoots dark brown; very productive.

LOCKE. Hov. Mag.

Locke's New Beurré.

This is a native fruit, originated by James Locke, West Cambridge, Mass. Fruit medium, roundish, obovate. Skin dull yellowish-green, slightly mottled with spots of darker green and bits of russet. Flesh greenish-white, melting, and juicy, with a sprightly, vinous flavour. November and December.

LOUISE BONNE. O. Duh. Lind. Thomp.

Louise Bonne Réal. St. Germain Blanc.

An old French winter pear. Fruit large, pyriform, a little rounded towards the stalk. Skin smooth, pale green. Flesh white, rather coarse-grained, melting, sweet, and pretty good. December.

MANSUETTE. Duh.

Solitaire. Beurré de Semur.

Fruit large, short, pyriform. Skin greenish-yellow. Flesh half melting, juicy, somewhat astringent; a baking pear. September.

MARIE LOUISE NOVA. Van Mons. Ken.

This variety was sent by Van Mons to Mr. Manning. It will by no means bear a comparison with the Marie Louise, though in some seasons a very good fruit. The wood is very strong and dark coloured. Fruit rather large, regular, pyriform, upright. Skin smooth, yellow, with a brownish-red cheek. Flesh at first melting, juicy, and sometimes rich, but quickly decays. Last of September.

MARTIN SEC. Thomp. Bivort.

Rousselette d'Hiver.

Tree vigorous, very productive. Fruit small, high-bulged,

pyriform. Skin deep yellow, shaded with crimson, and considerably covered with russet. Stem long, curved. Calyx open, basin very small. Flesh granular, half-breaking, with an agreeable flavour; excellent for cooking. November to February.

March Bergamotte.

One of Mr. Knight's seedlings. Fruit small or medium. Colour green, with small grey dots and large patches of russet. Stalk long, straight, in a cavity like that of an apple. Flesh coarse, greenish, of no decided excellence.

McVean.

Origin, Monroe County, N. Y.

Tree very vigorous, very productive. Fruit large, oblate, depressed-pyriform; very broad at calyx. Skin yellow, dotted and patched with russet. Flesh juicy, but somewhat astringent. October.

Messire Jean. O. Duh. Mill. Thomp.

Monsieur Jean.	Messire Jean Doré.
Messire Jean Gris.	Mr. John.
Messire Jean Blanc.	John.

An old French pear, but rather coarse-grained and gritty. Shoots dark grey. Fruit of medium size, turbinate. Skin somewhat rough, yellow, nearly covered with brown russet. Flesh gritty, white, crisp, juicy, and breaking, with a very sweet flavour. November and December.

Michaux. Man. in H. M.

Compte de Michaux.

Fruit of medium size, nearly round. Skin light yellowish-green, with a faint blush on the sunny side. Flesh white, half buttery, juicy, sweet, but second rate. September and October.

Moccas. Thomp.

Originated by Mr. Knight. A good grower; productive, but not of good quality.

Fruit medium, obovate. Skin green, sprinkled with small dots. Flesh juicy, but not rich. December.

Muscat Robert. Thomp. O. Duh. Lind.

Poire à la Reine.	Musk Robine. *Lind.*
D'Ambre.	Early Queen.
St. Jean Musqueé Gros.	Queen's Pear.

A larger and better (than Little) Muscat. Middle of July, and lasts only a few days.

Fruit small, turbinate. Skin greenish-yellow. Flesh white, tender, juicy, and pleasant.

Naumkeag. Man.

A native of Salem, Mass. In wood and leaf it resembles the Brown Beurré. Fruit medium, roundish. Skin yellow russet. Flesh juicy, melting, but rather astringent in flavour. Bears abundantly. October.

Oliver's Russet.

Fruit below medium, roundish. Skin rough, cinnamon russet, on yellow ground, with a blush. Stalk in a cavity; basin small. Flesh whitish, coarse, without much flavour. Last of September.

Orange Bergamotte. Coxe.

Fruit medium, broadly turbinate. Skin rough, yellow. Flesh firm, rather acid for eating, but excellent for baking. September.

Orange d'Hiver.

Winter Orange.

Fruit medium; an old pear, very productive; not desirable for table, but a good baking pear. November, December.

Pailleau. Van Mons. Man in H. M.

A Belgian pear, of good quality, but rather coarse-grained. Fruit medium, turbinate. Skin rough, greenish-yellow with patches of russet. Flesh juicy, sweet. Early in September.

Pennsylvania.

Smith's Pennsylvania.

The Pennsylvania is a seedling, originated by J. B. Smith, Esq., of Philadelphia, a well known amateur.

Fruit of medium size, obovate, a good deal narrowed towards the stalk. Skin brown russet, nearly covering a dull yellow ground, and becoming russet-red on the sunny side. Flesh yellowish-white, not very fine grained, juicy, half melting, sweet, perfumed, musky flavour. Middle and last of September.

Pitt's Prolific.

Pitt's Surpasse Marie. *Ken.*
Surpass Maria Louise, (*incorrectly of some American gardens.*)

An English fruit of medium size, oblong-pyriform. Skin yellow, a little russeted. Flesh juicy, soft, sweet, rather coarse, and of indifferent quality. September.

Pope's Scarlet Major.

Fruit rather large, obovate, yellow, with a bright red cheek. Flesh white, breaking, and rather dry. Last of August.

Pope's Quaker.

Fruit very fair, middle sized, oblong-pyriform, smooth, yellow-russet, juicy, melting and pleasant. October. Both these pears are natives of Long Island, N. Y.

Princess Maria. Van Mons.

Fruit pyramidal, below medium. Skin yellowish, nearly covered with russet. Stalk large and curved, fleshy at its junction, in a small cavity. Calyx open, basin small. Flesh rather coarse, sweet, and agreeable. October.

Princess of Orange. Lind. Thomp. P. Mag.

Princesse d'Orange. Princesse Conquéte.

A Flemish variety, raised by the Count Colonna, in 1802. Fruit medium, roundish. Skin cinnamon russet in the shade, bright reddish-russet in the sun. Flesh pale yellowish-white, crisp, juicy, astringent. October and November.

Princess Charlotte. Ani. Pom.

Raised by Esperen. A vigorous tree, productive. Fruit medium, depressed-pyriform. Color greenish. Stalk stout and long in a cavity; basin broad and shallow. Of great excellence in Belgium, but hitherto worthless here. October, November.

Queen of the Low Countries. Ken. Man. in H. M.

Reine des Pays Bas. *Van Mons.*

Fruit large, often very large, broad pyriform, tapering abruptly to the stalk. Skin in the shade dull yellow, dotted and russeted around the eye, and overspread with fine dark red on the side next the sun.

Flesh white, buttery, melting, and juicy, with a rich, sub-acid, vinous flavour. Variable, sometimes poor. Early in October.

Reine Caroline. Thomp.

A European pear, only fit for cooking. Fruit of medium size, narrow-pyriform. Skin yellow with a brownish-red cheek.

Flesh white, crisp, rather dry and indifferent in quality. November.

ROUSSELET DE MEESTER. Van Mons. Man in H. M.

Ferdinand de Meester? *Nois.*
Surpasse Meurice.

Fruit medium, roundish. Skin pale-yellow, red next the sun. Flesh juicy, sugary, coarse, not rich. October.

ROUSSELET HÂTIF. O. Duh. Thomp.

Early Catharine. *Coxe.*
Kattern, *of Boston.*
Cyprus Pear.
Early Rousselet. *Lind.*
Perdreau.
Poire de Chypre. *Poit.*

The Rousselet Hâtif, better known in our markets as the Early Catharine Pear, though not a first rate fruit, has good qualities as an early variety. Productive, long slender branches. Fruit rather small, pyriform. Skin, when fully ripe, yellow, with a brownish-red cheek.

Flesh a little coarse-grained, sweet, pleasant, and slightly perfumed. Ripens the middle of August, apt to rot at the core. Young shoots stout, olive coloured.

ROUSSELET DE RHEIMS. O. Duh. Thomp.

Rousselet. Petit Rousselet. *Nois.*
Spice or Musk Pear.

This French pear, originally from Rheims, is supposed to have been the parent of our Seckel. There is a pretty strong resemblance in the colour, form, and flavour of the two fruits, but the Seckel is much the most delicious. The growth is quite different, and this pear has remarkably long and thrifty dark-brown shoots. It is sugary, and with a peculiarly aromatic, spicy flavour, and if it were only *buttery*, would be a first rate fruit. Fruit small, turbinate, obovate, inclining to pyriform. Skin yellowish-green with brownish-red and russety specks.

Flesh breaking or half buttery, with a sweet, rich, aromatic flavour. Ripe at the beginning of September, subject to rot at the core.

STONE. Hov. Mag.

Origin, Ohio. Tree vigorous and productive. Fruit large, broad-pyriform, uneven. Skin bright yellow with a sunny cheek. Stalk large, long, and curved. Calyx large; basin open, broad and shallow.

Flesh white, somewhat buttery, slightly astringent. August.

ST. DENIS.

Tree vigorous, with long, dark-reddish branches. Fruit small,

turbinate, angular. Skin yellowish, considerably shaded with crimson, thickly sprinkled with crimson dots. Stalk long. Calyx open; broad, shallow, uneven basin. Flesh breaking, a little coarse, sweet, and aromatic; rots at the core unless gathered early. Last of August.

Sucre Vert. Thomp. Brivort.

Green Sugar.

Fruit medium or small, oblate, inclining to turbinate. Skin green. Stalk medium, fleshy at its insertion in a very slight cavity; basin shallow. Flesh juicy, melting, sweet, and pleasant. October.

Sugar Top. Thomp.

July Pear. Prince's Sugar.
Prince's Sugar Top.

Fruit roundish-top-shaped. Skin smooth, yellow. Flesh white, somewhat juicy and breaking, sweet, but with little flavour. Last of July.

Sucrée de Hoyerswerda. Thomp.

Sugar of Hoyersworda.

A pleasant German pear, of peculiar flavour, good when ripened in the house. It bears immense crops. Fruit small, obovate. Skin pale yellowish-green, thickly sprinkled with greenish-russet dots.

Flesh white, quite juicy, with a sweet and piquant flavour. It does not keep long. Last of August.

Summer St. Germain. Thomp.

Short's Saint Germain. Saint Germain de Martin.
St. Germain d'Été. *N. Duh.*

A pleasant, juicy, summer pear, of second rate flavour, bearing large crops.

Fruit of medium size, obovate. Skin pale green all over the surface. Stalk an inch and a quarter long, obliquely inserted. Calyx large, in a basin scarcely sunken. Flesh juicy, tender, with a very slight acid. Last of August.

Summer Franc Réal. Thomp. Lind. P. Mag.

Franc Réal d'Été. *Diel.* Gros Micet d'Été.
Fondante. *Knoop.* Green Chisel?
Green Sugar.

Fruit of medium size, obovate, but largest in the middle, and tapering each way. Skin pale yellowish-green, dotted with

small, brownish-green dots. Flesh white, fine grained, buttery, sugary. Core large. Ripe early in September.

Summer Rose.

Epine Rose. *Dhu. Nois.*
Caillot Rosat d'Eté.
Thorny Rose. *Mill.*
Ognon, Epine d'Ete. } *wrongly of some.*
Poire de Rose.
Epine d'Eté Couleur Rose.
Rosenbirne, *of the Germans.*

Fruit medium, roundish. Skin faint yellow, with a red russet cheek. Flesh white, coarse. Last of August, not eatable.

Summer Bon Chrétien. Mill. Thomp. Lind. P. Mag.

Bon Chrétien d'Eté. *O. Duh.*
Gratioli. } *of the Italians.*
Gratioli d'Eté.
Gratioli di Roma.
Summer Good Christian.
Musk Summer Bon Chretien. *Coxe.*
Sommer Apothekerbirne. } *of the Germans.*
Sommer Gute Christenbirne.
Die Sommer Christebirne.
Large Sugar, *of some.*

This is one of the oldest pears, having been cultivated for the last two centuries, all over Europe. It is common with us, but the stock is generally somewhat diseased.

Fruit large, irregularly bell-shaped or pyriform, with swollen, *knobby* sides. Skin yellow, with an orange-blush. Flesh yellowish, coarse grained, very juicy, and of a pleasant, simply sweet flavour. Last of August, or early in September.

Superfondante. Thomp.

Fruit of medium size, obovate. Skin smooth, pale yellow, marked with russet. Flesh white, buttery, melting, and good October.

Swan's Egg. Thomp. Lind.

Moor-fowl Egg, *incorrectly of some Boston gardens.*

Fruit small, oval. Skin pale green, washed with pale brown on the sunny side, and dotted with brownish specks. Flesh soft, juicy, with a sweet somewhat musky flavour. October.

Sylvange. Nois. Thomp.

Bergamotte Sylvange. Green Sylvange. *Lind.*

Fruit roundish-obovate, shaped like a bergamot. Skin rough, pale green, with a slightly darker green cheek. Flesh greenish-white, juicy, tender and melting, with a sweet, agreeable flavour. October, and keeps a long time.

Tillington.

A seedling of Mr. Knight's, hardly medium in size, obovate Skin thick, rough, dark green, tinged with brown next the sun. Flesh coarse, of not more than second-rate quality. October.

Vallée Franche. Thomp, Duh.

De Vallée. *Nois. Poit.* Bonne de Keinzheim.
De Keinzheim.

Fruit medium, obovate, or turbinate. Skin yellowish-green. Flesh white, not fine grained, quite juicy, but not buttery, and of a simple sweet flavour. Last of August.

Van Mons Léon Le Clerc.

Van Mons Léon le Clerc was originated by M. Léon le Clerc, an amateur cultivator, of Laval, in France, who, in naming it desired to couple his own name, with that of his friend, Dr, Van Mons—"le grand prêtre de Pomona." Its shoots strong upright, olive.

Tree cankers badly, and the fruit generally cracks, so that it is scarcely worth cultivating.

Fruit large, oblong-obovate. Skin yellowish, much mingled with brown over nearly the whole surface, and slightly russeted near the stalk. Stalk an inch and a half long, rather stout, obliquely inserted, with little depression. Calyx small, open, set in a shallow basin. Flesh yellowish-white, buttery, and melting, with a sugary flavour. October and November.

Virgouleuse. O. Duh. Poit. Thomp.

Poire-glace. Chambrette. Bujaleuf.

An excellent old French variety, which, in consequence of its indifferent crops, is scarcely cultivated in the middle states.

Fruit medium, pyriform. Skin very smooth, yellowish-green at maturity, sprinkled with numerous gray or reddish dots. Flesh white, buttery, melting, and of good flavour. November to January.

William Edwards'. Wilder. Mss.

A seedling of Ex-Gov. Edwards, of New Haven, very productive, and a good baking fruit, but not juicy or melting enough for the dessert.

Fruit of medium size, obtuse-pyriform, terminating rather abruptly at the stalk. Skin yellow, and at maturity, profusely

dotted with red and russet points or dots on the sunny side. Flesh yellowish-white, buttery, sugary. September.

Windsor. Lind. Thomp.

Summer Bell. Cuisse Madame, *of some.*
Konge.

The Windsor is an old European pear, very commonly known in some parts of this country, as the Summer Bell pear. It is, however, only a cooking fruit. The tree is remarkable for its stout, perfectly upright dark-brown shoots.

Fruit large, pyriform, or bell-shaped, widest above the middle, narrowing to the eye. Skin yellowish-green. Flesh white, tender, or soft, coarse-grained, with a somewhat astringent juice. Rots at the core. Last of August.

Yat. Lind. Thomp.

Yutte.

A Dutch pear. The trees have slender, drooping branches. Fruit small, turbinate. Skin brown russet. Flesh white, tender, juicy, with a sugary, perfumed flavour. Rots quickly. September.

Selection of choice Pears to ripen in succession, from July to April.—Doyenne d'Eté Madeline, Bloodgood, Dearborn's Seedling, Beurré Giffart, Rostizer, Ott, Bartlett, Tyson, Osbands' Sumner, Belle Lucrative, Flemish Beauty, Beurré Bosc, Doyenne White, Doyenne Boussac, Beurré d'Anjou, Seckel, Urbaniste, Shelden, Church, Beurré Diel-Dix, Beurré Langelier, Lawrence, Winter Nelis, Beurré d'Aremberg, Beurré Gris d'Hiver Nouveau, Easter Beurré.

Selection of Pears for a cold climate.—Doyenne d'Eté, Bloodgood, Rostizer, Fulton, Heathcote, Buffum, Beurré Bosc, Flemish Beauty, Louise Bonne de Jersey on quince, Belle Lucrative, Urbaniste, McLaughlin, Dix, Beurré Diel, Beurré d'Auralis, White Doyenne, Lewis, Winter Nelis, Princes St. Germain, Glou Morceau on quince, Jaminett, Vicar of Winkfield, Doyenne d'Hiver Nouveau.

Selection of Pears for dwarfs on quince stocks.—Belle Lucrative, Beurré d'Amalis, Beurré Diel, Beurré Langelier, Beurré d'Anjou, Duchess d'Angouleme, Doyenne d'Eté, Doyenne Boussac, Easter Beurre, Figue d'Alençon, Glou Morceau, Louise Bonne de Jersey, Napoleon, Nouveau Poiteau, Rostizer, Soldat Laboureur, St. Michael Archangel, Urbaniste, Uvedale's St. Germain or Pound (for baking), Vicar of Winkfield, White Doyenne.

List of untested foreign varieties promising well:—

Abbé Edouard.
Alexandrina.
Avocat Allard.
Bergamotte Esperen.
Bezy de L'Ermite.
Beurré Kennes.
Bon Gustave.
Comte de Paris.
Colmar Delahant.
Cassante de Mars.
Desiré Cornelis.
Docteur Lantier.
De Tongres.
Doyen Dillen.
Doyenné Defais.
Dupuy Charles.
Emilie Bivort.
Gustave Bivort.
Gros Rousselet d'Août.
Gideon Paridant.
Henri Bivort.
Jules Bivort.
Laure de Glymes.
Leopold 1st.
Madame Eliza.
Madame Ducar.
Madame Adelaide De Rèves.
Maréchal Dillon.
Mignonne d'Hiver.
Nouvelle Fulvie Grégoire.
Poire Pêche.
Prince Albert.
Philippe Goes.
Souvenir d'Esperen.
Souveraine d'Printems.
Theodore Van Mons.
Tris Grégoire.

[We are indebted to our friend Louis E. Berckmans, the Belgian Pomologist, for the following lists of fruits, made at our request, and feel assured they will give general satisfaction.]

A list of pear trees, of fine appearance, of vigorous growth, of a natural pyramidal shape (or easily kept in that form), of good bearing disposition, with fruit of good or best quality; in a word, best adapted to a lawn, or garden walk, where ornament and beauty are required, as well as the more essential qualities of a pear tree.

1*st List.—For Beauty of Form.*

On Quince or Pear Stock.	*On Pear Stock, or Double-worked.*
Beurré Laugelier.	Andrews.
Beurré Superfin.	Buffum.
Belle Lucrative.	Belle Epine Dumas
Esperine.	Capsheaf.
Fig of Angers.	Frederica Bremer.
Glou-morceau.	Kingsessing.
Nouveau Poiteau.	Lawrence.
St. Michael Archangel.	Onondaga.
Urbaniste.	Oswego Beurré.
Vicar of Winkfield.	Sterling.
	Walker.

2*d List.—Trees not quite so Fine as Pyramids.*

On Quince and Pear.	*Pear Stock, or Double-worked.*
Beurré Diel.	Beurré Clairgeau.
Beurré d'Anjou.	Boston.
Baronne de Mello.	Brandywine.

On Quince and Pear.	*Pear Stock, or Double-worked.*
Bonne d'Ezée.	Dix.
Duchesse d'Angoulême.	Doyenné Boussac.
Doyenné Gris.	Fondante de Malines.
Howell.	Flemish Beauty.
Jaminette.	Frankford.
Louise Bonne de Jersey.	Fulton.
Meriam.	Graslin.
Ott's Seedling.	General Taylor.
Stevens's Genesee.	Heathcote.
Theodore Van Mons.	Hericart.
	Niles.
	Pratt.
	Wadleigh.

Sorts not sufficiently tested, but of a fine pyramidal and ornamental form :—

On Pear Stock, or Double-worked.

Albertine.	Doyenné du Comice.
Alexandre Lambré.	Esther Conte.
Abbé Edouard.	Felix de Liem.
Arlequin Musqué.	Fondante de Noel.
Amand Bivort.	Gedeon Paridant.
Alexandrina.	Gros Colmar Van Mons.
Bon Gustave.	Gustave Bivort.
Beurré Berckmans.	Henkel.
Beurré Hamecher.	Henri Van Mons.
Beurré Rouge Tardif	Juive.
Beurré Burnieq.	Leon Leclerc de Laval.
Bergamotte Esperen.	Louis Dupont.
" Sageret.	Maréchal Pélissier.
Bezy de Printemps.	Monseigneur Affre.
Bezy de L'Ermite.	Prince Albert.
Belle du Grand Montrouge.	Philippe Goes.
Bois Napoleon.	Poire Péche.
Comte de Paris.	Parfum d'Août.
Charles Frederick.	Pius the IXth.
Charles (or Charlotte) de Boulogne.	Souvenir d'Esperen.
	Souveraine de Printemps.
Conseiller Ranwez.	Surpasse Fortuneé.
Colmar Josse Smet.	Tea.
Desiré Cornelis.	Ursule Van Mons.
De Lamartine.	

Straggling trees of drooping and irregular habits, or bearing upon the extremities of the branches :—

Beurré Giffart.	Madeleine.
Beurré d'Amanlis.	Marie Louise.
Catillac.	Passe Colmar.
Columbia.	Poire Morel.
Colmar Nelis.	Rostizer.
Chancellor.	St. Ghislain.
Josephine Malines.	

Although these sorts can be reduced and kept in pyramidal shape, they are not so well fitted for it, and will never bear so well, if they bear at all.

CHAPTER XXII.

THE PEACH.

Persica vulgaris, Dec.; *Rosaceæ* of botanists.
Pêcher, of the French; *Pfirschbaum*, German; *Persickkeboom*, Dutch; *Persica*, Italian; and *El Melocoton*, Spanish.

The peach tree is a native of Persia and China, and was brought from the former country to Italy by the Romans in the time of the Emperor Claudius. It was considerably cultivated in Britain as early as the year 1550, and was introduced to this country by the early settlers somewhere about 1680. From Persia, its native country, its name in all languages—Persico—Pêcher—peach—has evidently been derived.

The peach is a rather small fruit tree, with narrow, smooth, serrated leaves, and pink blossoms. It is more tender and of shorter duration than most other of the fruits usually grown in temperate climates. It is never raised in England, and not generally in France, without the aid of walls. Even at Montreuil, near Paris, a village whose whole population is mainly employed in cultivating the peach for market, it is grown entirely upon whitewashed walls. China and the United States are, therefore, the only temperate countries where the peach and the apple both attain their highest perfection in the open orchard. The peaches of Pekin are celebrated as being the finest in the world, and of double the usual size.*

It is a curious fact in the history of the peach, that with its delicious flavour were once coupled, in the East, certain notions of its poisonous qualities. This idea seems vaguely to have accompanied it into Europe, for Pliny mentions that it was supposed that the king of Persia had sent them into Egypt to poison the inhabitants, with whom he was then at war. As the peach and the almond are closely related, it has been conjectured by Mr. Knight that the poisonous peaches referred to were swollen almonds, which contain a considerable quantity of prussic acid. But it is also worth remarking that the peach tree seems to hold

* The Horticultural world, since our intercourse has been put upon a more favourable footing with the "Celestial Empire," are looking with great eagerness to the introduction of many valuable plants and trees, the Chinese being the most curious and skilful of merely practical gardeners.

very much the same place in the ancient Chinese writings, that the tree of knowledge of the old Scriptures, and the golden Hesperides apples of the heathens, do in the early history of the western nations. The traditions of a peach tree, the fruit of which when eaten conferred immortality, and which bore only once in a thousand years—and of another peach tree of knowledge, which existed in the most remote period on a mountain guarded by a hundred demons, the fruit of which produced death—are said to be distinctly preserved in some of the early Chinese writings. Whatever may have been the nature of these extraordinary trees, it is certain that, as Lord Bacon says, "not a slip or sucker has been left behind." We must therefore content ourselves with the delight which a fine peach of modern times affords to the palate and the eye.

We believe there is at the present time no country in the world where the peach is grown in such great quantities as in the United States.* North of a line drawn from the Mohawk river to Boston, comprising most of the Eastern States, they do not indeed flourish well, requiring some artificial aid to produce regular crops; but in all the Middle, Southern, and Western States, they grow and produce the heaviest crops in every garden and orchard. Thousands of acres in New Jersey, Delaware and Maryland, are devoted to this crop for the supply of the markets of New York and Philadelphia; and we have seen, in seasons of great abundance, whole sloop loads of fruit of second quality, or slightly decayed, thrown into the North river in a single morning. The market price usually varies from fifty cents to four dollars per bushel, according to the abundance of the crop, and to the earliness or lateness of the season at which they are offered; one hundred and fifty cents being considered a good retail price. Many growers in New Jersey have orchards of from 10,000 to 20,000 trees of different ages, and send to market in good seasons as many bushels of fruit from the bearing trees. When the crop is not universally abundant, the profits are very large; if the contrary, they are often very little. But, as in some districts, especially in New Jersey, peaches are frequently grown on land too light to produce good crops of many other kinds, the investment is a good one in almost all cases. Undoubtedly, however, the great peach-growing district of the United States will one day be the valleys of the Ohio and Mississippi. With an equally favourable climate, that portion of the country possesses a much finer soil, and the flavour of its peaches is unusually rich and delicious.

The very great facility with which the peach grows in this

* It will amuse our readers to read in McIntosh's work, "The Orchard," that "the Americans usually eat the clingstones, while they reserve the freestones for feeding the pigs!"

country, and the numerous crops it produces, almost without care, have led to a carelessness of cultivation which has greatly enfeebled the stock in the eastern half of the Union, and, as we shall presently show, has, in many places, produced a disease peculiar to this country. This renders it necessary to give some additional care and attention to the cultivation of the peach; and with very trifling care, this delicious fruit may be produced in great abundance for many successive years.

Uses. Certainly no one expects us to write the praises of the peach as the most delicious of fruits. "To gild refined gold" would be a task quite as necessary, and if any one doubts the precise rank which the peach should take among the different fruits of even that cornucopian month—September—and wishes to convince us of the higher flavour of a Seckel or a Belle Lucrative pear, we will promise to stop his mouth and his argument with a sunny-cheeked and melting "George the Fourth," or luscious "Rareripe!" No man who lives under a warm sun will hesitate about giving a due share of his garden to peaches, if he have no orchard; and even he who lives north of the best Indian corn limits, ought to venture on a small line of espalier, for the sake of the peach. In pies and pastry, and for various kinds of preserving, the peach is everywhere highly esteemed. At the south and west, where peaches are not easily carried to market, a considerable quantity of peach brandy is annually distilled from them, but we believe by no means so much as formerly. Hogs are fattened, in such districts, on the refuse of the orchard and distillery.

In Western New-York, and indeed in most parts of the country where peaches are largely cultivated, the fruit is dried, and in this state sent to market in very large quantities. The drying is performed, on a small scale, in spent ovens; on a large scale, in a small drying house heated by a stove, and fitted up with ventilated drawers. These drawers, the bottoms of which are formed of laths, or narrow strips sufficiently open to allow the air to circulate through them, are filled with peaches in halves. They are cut in two without being peeled, the stones taken out, and the two halves placed in a single layer with the skin downward. In a short time the heat of the drying house will complete the drying, and the drawers are then ready for a second filling. Farther south they are spread upon boards or frames, and dried in the sun merely; but usually with the previous preparation of dipping the peaches (in baskets) for a few minutes in boiling water before halving them.

The leaf of the peach, bruised in water and distilled, gives the peach water, so much esteemed by many for flavouring articles of delicate cookery; and steeped in brandy or spirits, they communicate to it the flavour of Noyeau. Indeed a very good imitation of the celebrated Noyeau is made in this way, by using

the best white brandy, which, after being thus flavoured, is sweetened with refined sugar mixed with a small quantity of milk, and afterwards decanted.

Propagation. The peach is the most easily propagated of all fruit trees. A stone planted in the autumn will vegetate in the ensuing spring, grow three or four feet high, and may be budded in August or September. Two years from this time, if left undisturbed, it will usually produce a small crop of fruit, and the next season bear very abundantly, unless the growth is over-luxuriant

In nursery culture, it is customary to bury the peach stones, in autumn, in some exposed spot, in thick layers, covered with earth. Here they are allowed to lie all winter. As early in the spring as the ground is in fine friable condition, the stones are taken out of the ground, cracked, and the kernels sown in mellow, prepared soil, in the nursery rows where they are to grow. They should be covered about an inch deep. Early in the following September they will be fit for *budding*. This is performed with great care on the peach, and grafting is therefore seldom or never resorted to in this country, except at the south. The buds should be inserted quite near the ground. The next season the stock should be headed back in March, and the trees will, in good soil, grow to the height of a man's head in one year. This is, by far, the best size for transplanting the peach—one year old from the bud.

For northern latitudes, for cold soils, and for training, the plum stock is much preferable to the peach for budding the fine varieties. In England the plum stock is universally employed. The advantage gained thereby is, not only greater hardihood, but a dwarfer and neater habit of growth, for their walls. In France, some of the best cultivators prefer the almond stock, and we have no doubt, as it would check the over-productiveness of the peach, it would be desirable to employ it more generally in this climate. Still, healthy peach stocks afford the most natural foundation for the growth of standard orchard trees. At the same time we must protest against the indiscriminate employment (as is customary with some nurserymen) of peach stones from any and every source. With the present partially diseased state of many orchards in this country, this is a practice to be seriously condemned; and more especially as, with a little care, it is always easy to procure stones from sections of country where the *Yellows* is not prevalent.

For rendering the peach quite dwarf, the *Mirabelle* plum stock is often employed abroad.

Soil and Situation. The very best soil for the peach is a rich, deep, sandy loam; next to this, a strong, mellow loam; then a light, thin, sandy soil; and the poorest is a heavy, compact clay soil. We are very well aware that the extensive and profitable appropriation of thousands of acres of the lightest

sandy soil in New Jersey and Delaware, has led many to believe that this is the best soil for the peach. But such is not the fact, and the short duration of this tree in those districts is unquestionably owing to the rapidity with which the soil is impoverished. We have, on the contrary, seen much larger, finer, and richer flavoured peaches, *produced for a long time successively*, on mellow loam, containing but little sand, than upon any other soil whatever.

It is a well-founded practice not to plant peach orchards successively upon the same site, but always to choose a new one. From sixteen to twenty-five feet apart may be stated as the limits of distance at which to plant this tree in orchards—more space being required in warm climates and rich soils than under the contrary circumstances. North of New York it is better always to make plantations in the spring, and it should be done pretty early in the season. South of that limit it may usually be done with equal advantage in the autumn.

In districts of country where the fruit in the blossom is liable to be cut off by spring frosts, it is found of great advantage to make plantations on the north sides of hills, northern slopes or elevated grounds, in preference to warm valleys and southern aspects. In the colder exposures the vegetation and blossoming of the tree is retarded until after all danger of injury is past. Situations near the banks of large rivers and inland lakes are equally admirable on this account, and in the garden where we write, on the banks of the Hudson, the blossoms are not injured once in a dozen years, while on level grounds only five miles in the interior, they are destroyed every fourth or fifth season.

With regard to the culture of peach orchards, there is a seeming disparity of opinion between growers at the north and south. Most of the cultivators at the south say, *never plough* or cultivate an orchard after it has borne the first crop. Ploughing bruises the roots, enfeebles the trees, and lessens the crop. Enrich the ground by top dressings, and leave it in a state of rest. The best northern growers say, always keep the land in good condition,—mellow and loose by cultivation,—and crop it very frequently with the *lighter* root and field crops. Both are correct, and it is not difficult to explain the seeming difference of opinion.

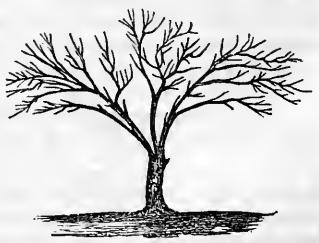
The majority of the peach orchards south of Philadelphia, it will be recollected, grow upon a thin, light soil, previously rather impoverished. In such soils, it is necessarily the case, that the roots lie near the surface, and most of the food derived by them is from what is applied to the surface, or added to the soil. Ploughing therefore, in such soils, wounds and injures the roots, and cropping the ground takes from it the scanty food annually applied or already in the soil, which is not more than sufficient for the orchard alone. In a stronger and deeper soil, the roots

of the peach tree penetrate farther, and are, mostly, out of the reach of serious injury by the plough. Instead of losing by being opened and exposed to the air, the heavier soil gains greatly in value by the very act of rendering it more friable, while at the same time it has naturally sufficient heart to bear judicious cropping with advantage, rather than injury, to the trees. The growth and luxuriance of an orchard in strong land, kept under tillage, is surprisingly greater than the same allowed to remain in sod. The difference in treatment, therefore, should always adapt itself to the nature of the soil. In ordinary cases, the duration of peach orchards in the light sandy soil is rarely more than three years in a bearing state. In a stronger soil, with proper attention to the shortening system of pruning, it may be prolonged to twenty or more years.

Pruning. It has always been the prevailing doctrine in this country that the peach requires no pruning. It has been allowed to grow, to bear heavy crops, and to die, pretty much in its own way. This is very well for a tree in its native climate, and in a wild state; but it must be remembered that the peach comes from a warmer country than ours, and that our peaches of the present day are artificial varieties. They owe their origin to artificial means, and require therefore a system of culture to correspond.

In short, we view this absence of all due care in the management of the peach tree, *after it comes into bearing*, as the principal original cause of its present short duration, and the disease which preys upon it in many of the older parts of the country. We therefore earnestly desire the attention of peach growers to our brief hints upon a regular system of pruning this valuable tree. Of course we speak now of common standard trees, in the orchard or garden.

A peach tree, left to itself after being planted, usually comes into bearing the third or fourth year, and has a well-shaped, rounded head, full of small bearing branches, and well garnished with leaves. It must be borne in mind that the fruit is only borne on the young shoots of the previous summer's growth. In a young tree these are properly distributed throughout. But in a couple of seasons, the tree being left to itself, the growth being mostly produced at the ends of the principal branches, the young shoots in the interior of the head of the tree die out. The consequence is, that in a short



A peach tree without pruning, as commonly seen.

time the interior of the tree is filled with long lean branches, with only young shoots at their extremities. Any one can see that such a tree can be provided with but half the number of healthy strong shoots for bearing, that one would have if filled throughout with vigorous young wood. The sap flows tardily through the long and rigid branches, and not half leaves enough are provided to secure the proper growth of the fruit. And, finally, all the fruit which the tree yields being allowed to remain at the ends of the branches, they often break under its weight.

Now, we propose to substitute for this, what is generally known as the *shortening-in* system of pruning. We affirm, both from its constant success abroad, and from our own experience and observation in this country, that putting its two diseases out of the question (which we will presently show how to avert), the peach may be continued in full vigour and production in any good soil, for from ten to thirty years.

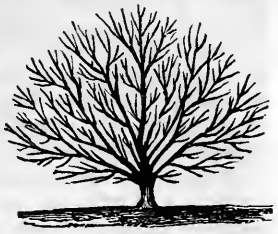
Let us take a healthy tree in the orchard or garden, in its first blossoming year. It is usually about 6 to 8 feet high, its well-shaped head branching out about three feet* from the ground. It has never yet been trimmed except to regulate any deformity in its shape, and this is so much the better.

At the end of February, or as early in the spring as may be, we commence pruning. This consists only of *shortening-in*, i.e., cutting off *half the last year's growth* over the whole outside of the head of the tree, and also upon the inner branches. As the usual average growth is from one to two feet, we shall necessarily take off from six to twelve inches. It need not be done with precise measurement; indeed, the strongest shoots should be shortened back most, in order to bring up the others, and any long or projecting limbs that destroy the balance of the head should be cut back to a uniform length. This brings the tree into a well-rounded shape. By reducing the young wood one half, we at the same moment reduce the coming crop one half in number. The remaining half, receiving all the sustenance of the tree, are of double the size. The young shoots, which start out abundantly from every part of the tree, keep it well supplied with bearing wood for the next year, while the greater luxuriance and size of the foliage, as a necessary consequence, produces larger and higher flavoured fruit.† Thus,

* We think *low* heads much preferable to high ones on many accounts. They shade the root, which insects are therefore much less liable to attack, and they are more within reach both for pruning and gathering.

† It is well, in shortening-back, to cut off the shoot close above a *wood-bud* rather than a blossom-bud. Few persons are aware how much the size and beauty of the fruit depends on the size and vigour of the leaves. We have seen two peach trees of the same age side by side, one unpruned, and the other regularly *shortened-in*, and both bearing about four bushels. That of the latter was, however, of double the size, and incomparably finer.

while we have secured against the prevalent evil, an over-crop, we have also provided for the full nourishment of the present year's fruit, and induced a supply of fruit-bearing shoots throughout the tree, for the next season.



A peach tree pruned by the shortening-in mode.

This course of pruning is followed regularly, every year, for the whole life of the tree. It is done much more rapidly than one would suppose; the pruned wounds are too small to cause any gum to flow; and it is done at the close of winter, when labour is worth least to the cultivator.

The appearance of a tree pruned in this way, after many years of bearing, is a very striking contrast to that of the poor skeletons usually seen. It is, in fact, a fine object, with a thick, low, bushy head, filled with healthy young wood, and in the summer with an abundance of dark-green, healthy foliage, and handsome fruit. Can any intelligent man hesitate about adopting so simple a course of treatment to secure such valuable results? We recommend it with entire confidence to the practice of every man in the country that cultivates a peach tree. After he has seen and *tasted* its good effects, we do not fear his laying it aside.*

* While this is going through the press, our attention is drawn to the following remarkable examples of the good effects of regular pruning, which we translate from the leading French Journal of Horticulture. We ask the attention of our readers to these cases, especially after perusing our remarks on the Yellows and its cause:

"M. Duvilliers laid before the Royal Society of Horticulture an account of some old peach trees that he had lately seen at the Chateau de Villiers, near Ferté-Aleps (Seine-et-Oise). These trees, eight in number, are growing upon a terrace wall, which they cover perfectly, and yield abundant crops. The gardener assured M. Duvilliers that they had been under his care during the thirty years that he had been at the chateau; that they were as large when he first saw them as at present, and that he supposed them to be at least *sixty years old. We cannot doubt* (says the editor) *that it is to the annual pruning that these peach trees owe this long life; for the peach trees that are left to themselves in the latitude of Paris never live beyond twenty or thirty years.* M. Duvilliers gave the accurate measurement of the trunks and branches of these trees, and stated, what it is more interesting to know, that although all their trunks are hollow, like those of old willows, yet their vigour and fertility are still quite unimpaired. (*Annales de la Société d'Horticulture, tome* xxx. p. 58.)

In volume 25, page 67, of the same journal, is an account of a remarkable peach tree in the demesne of M. Joubert, near Villeneuve le Roi (département de l'Yonne). It is trained against one of the wings of the mansion, covers a large space with its branches, and the circumference of

Training the peach tree against walls or espaliers is but little practised in this country, except in the neighbourhood of Boston. Espalier training, on a small scale, is however highly worthy of the attention of persons desiring this fruit in the colder parts of the country, where it does not succeed well as a standard. Everywhere in New-England excellent crops may be produced in this way. Full directions for training the peach, with illustrations, are given in page 38.

Insects and Diseases. For a considerable time after the peach was introduced into America, it was grown everywhere south of the 40° of latitude, we may say literally *without cultivation*. It was only necessary to plant a stone in order to obtain, in a few years, and for a long time, an abundance of fruit. Very frequently these chance seedlings were of excellent quality, and the finer grafted varieties were equally luxuriant. In our new western lands this is now true, except where the disease is carried from the east. But in the older Atlantic states, two maladies have appeared within the last twenty years, which, beacuse they are little understood, have rendered this fine fruit tree comparatively short-lived, and of little value. These are the *Peach-borer*, and the *Yellows*.

The Peach-borer, or Peach-worm (*Ægeria exitiosa*, Say), does great mischief to this tree by girdling and devouring the whole circle of bark just below the surface of the ground, when it soon languishes and dies.

The insect in its perfect state is a slender, dark-blue, four-winged moth, somewhat like a wasp. It commences depositing its eggs in the soft and tender bark at the base of the trunk, usually about the last of June, but at different times, from June to October. The egg hatches and becomes a small white *borer* or grub, which eventually grows to three-fourths of an inch long, penetrates and devours the bark and sap wood, and, after passing the winter in the tree, it enfolds itself in a cocoon under or upon the bark, and emerges again in a perfect or winged form in June, and commences depositing its eggs for another generation.

It is not difficult to rid our trees of this enemy. In fact, nothing is easier to him who is willing to devote a few moments every season to each tree. The eggs which produce the borer, it will be recollected, are deposited in the soft portion of bark just at the surface of the earth. Experience has conclusively

its trunk, taken at some distance from the ground, is two feet and a half. *It is known to be, actually, of more than* 93 *years' growth*, and is believed to be more than 100 years old. It is still in perfect health and vigour. It is growing in strong soil, but it has been regularly subjected to a uniform and severe system of pruning, equivalent to our shortening-in mode. Where can any peach tree, of half this age, be found in the United States, naturally a much more favourable climate for it than that of France?

proved that if a small quantity, say *half a peck* of air-slaked lime, is heaped around the trunk of each tree at the end of May and suffered to remain till October, the peach-borer will not attack it. It has been tried most successfully in large orchards, where the protected trees have long remained sound, while those unprotected have been speedily destroyed by the borer. The remedy undoubtedly lies chiefly in covering the most vulnerable portion of the tree from the attack of the insect; and therefore persons have been more or less successful with ashes, charcoal, clay, mortar, and other protectives. But we recommend for this purpose *air-slaked lime* or *ashes*,* because these more fully answer the purpose as protectives, and when spread over the surface, as they should be every autumn, they form the best fertilizers for the peach tree.

This is the easiest and the most successful mode, and it should not be neglected a single season. Many careful and rigid cultivators prefer a regular examination of the trees every spring and autumn. On removing the earth, for a few inches, the appearance of gum or castings quickly indicates where the borer has made his lodging. A few moments with the knife will then eradicate the insect for the season. This is a very effectual mode, but not, on the whole, so simple or so good as the other, because the tree is always left exposed to attack, and to consequent injury, before the insect is dislodged.

THE YELLOWS. This most serious malady seems to belong exclusively to this country, and to attack only the peach tree. Although it has been the greatest enemy of the peach planter for the last thirty years—rendering the life of the tree uncertain, and frequently spreading over and destroying the orchards of whole districts—still little is known of its nature, and nothing with certainty of its cause. Many slight observers have confounded it with the effects of the peach-borer, but all persons who have carefully examined it, know that the two are totally distinct. Trees may frequently be attacked by both the yellows and the borer, but hundreds die of the yellows when the most minute inspection of the roots and branches can discover no insect or visible cause. Still we believe proper cultivation will entirely rid our gardens and orchards of this malady; and this belief is in part borne out by experiments under our own inspection. In order to combat it successfully, it is necessary that the symptoms should be clearly understood.

Symptoms. The Yellows appears to be a constitutional disease, no external cause having yet been assigned for it. Its infallible symptoms are the following:

1. The production upon the branches of very *slender, wiry shoots*, a few inches long, and bearing starved, diminutive leaves.

* Bleached ashes.

These shoots are not protruded from the extremities, but from latent buds on the main portions of the stem and larger branches. The leaves are very narrow and small, quite distinct from those of the natural size, and are either pale-yellow or destitute of colour.

2. The premature ripening of the fruit. This takes place from two to four weeks earlier than the proper season. The first season of the disease it grows nearly to its natural size; the following season it is not more than half or a fourth of that size; but it is always marked externally (whatever may be the natural colour) with specks and large spots of purplish red. Internally, the flesh is more deeply coloured, especially around the stone, than in the natural state.

Either of the foregoing symptoms (and sometimes the second appears a season in advance of the first) are undeniable signs of the yellows, and they are not produced by the attacks of the worm or other malady. We may add to them the following additional remarks.

It is established beyond question, that the yellows is always propagated by budding or grafting from a diseased tree; that the stock, whether peach or almond, also takes the disease, and finally perishes; and that the seeds of the diseased trees produce young trees in which the yellows sooner or later break out. To this we may add that the peach, budded on the plum or apricot, is also known to die with the yellows.

The most luxuriant and healthy varieties appear most liable to it. Slow-growing sorts are rarely affected.

Very frequently only a single branch, or one side of a tree, will be affected the first season. But the next year it invariably spreads through its whole system. Frequently, trees badly affected will die the next year. But usually it will last, growing more and more feeble every year, for several seasons. The roots, on digging up the tree, do not appear in the least diseased.

The soil does not appear materially to increase or lessen the liability to the Yellows, though it first originated, and is most destructive, in light, warm, sandy soils. Trees standing in hard trodden places, as in or by a frequented side-walk, often outlive all others.

Lastly, it is the nearly universal opinion of all orchardists that the Yellows is a *contagious* disease, spreading gradually, but certainly, from tree to tree through whole orchards. It was conjectured by the late William Prince that this takes place when the trees are in blossom, the contagion being carried from tree to tree in the pollen by bees and the wind. This view is a questionable one, and it is rendered more doubtful by the fact that experiments have been made by dusting the pollen of diseased trees upon the blossoms of healthy ones without communicating the Yellows.

We consider the contagious nature of this malady an unsettled point. Theoretically, we are disinclined to believe it, as we know nothing analogous to it in the vegetable kingdom. But on the other hand, it would appear to be practically true, and for all practical purposes we would base our advice upon the supposition that the disease is contagious. For it is only in those parts of the Atlantic States where every vestige of a tree showing the Yellows is immediately destroyed, that we have seen a return of the normal health and longevity of the tree.*

Cause of the Yellows. No writer has yet ventured to assign a theory, supported by any facts, which would explain the cause of this malady. We therefore advance our opinion with some diffidence, but yet not without much confidence in its truth.

We believe the malady called the Yellows to be a *constitutional taint* existing in many American varieties of the peach, and produced, in the first place, by bad cultivation and the consequent exhaustion arising from successive over-crops. Afterwards it has been established and perpetuated by sowing the seeds of the enfeebled tree either to obtain varieties or for stocks.

Let us look for a moment into the history of the peach culture in the United States. For almost a hundred years after this tree was introduced into this country it was largely cultivated, especially in Virginia, Maryland, and New Jersey, as we have already stated, in perfect freedom from such disease, and with the least possible care. The great natural fertility of the soil was unexhausted, and the land occupied by orchards was seldom or never cropped. Most of the soil of these States, however, though at first naturally rich, was light and sandy, and in course of time became comparatively exhausted. The peach tree, always productive to an excess in this climate, in the im-

* The following extract from some remarks on the Yellows by that careful observer, Noyes Darling, Esq., of New Haven, Ct., we recommend as worthy the attention of those who think the disease contagious. They do not seem to indicate that the disease spreads from a given point of contagion, but breaks out in spots. It is clear, to our mind, that in this, and hundreds of other similar cases, the disease was *inherent* in the trees, they being the seedlings of diseased parents.

"When the disease commences in a garden or orchard containing a considerable number of trees, it does not attack all at once. It breaks out in *patches* which are progressively enlarged, till eventually all the trees become victims to the malady. Thus in an orchard of two and a half acres, all the trees were healthy in 1827. The next year two trees on the *west side* of the orchard, within a rod of each other, took the Yellows. In 1829, six trees on the *east side* of the orchard were attacked; five of them standing within a circle of four rods diameter. A similar fact is now apparent in my neighbourhood. A fine lot of 200 young trees, last year in perfect health, now show disease in two spots near the opposite ends of the lot, having exactly six diseased trees in each patch contiguous to each other; while all the other trees are free from any marks of disease." —*Cultivator.*

poverished soil was no longer able to recruit its energies by annual growth, and gradually became more and more enfeebled and short-lived. About 1800, or a few years before, attention was attracted in the neighbourhood of Philadelphia to the sudden decay and death of the orchards without apparent cause. From Philadelphia and Delaware the disease gradually extended to New Jersey, where, in 1814, it was so prevalent as to destroy a considerable part of all the orchards. About three or four years later it appeared on the banks of the Hudson (or from 1812 to 1815), gradually and slowly extending northward and westward, to the remainder of the State. Its progress to Connecticut was taking place at the same time, a few trees here and there showing the disease, until it became well known (though not yet generally prevalent) throughout most of the warmer parts of New England.

It should be here remarked that, though the disease had been considerably noticed in Maryland and the Middle States previously, yet it was by no means general until about the close of the last war. At this time wheat and other grain crops bore very high prices, and the failing fertility of the peach-orchard soils of those States was suddenly still more lowered by a heavy system of cropping between the trees, without returning anything to the soil. Still the peach was planted, produced a few heavy crops, and declined, from sheer feebleness and want of sustenance. As it was the custom with many orchardists to raise their own seedling trees, and as almost all nurserymen gathered the stones *indiscriminately* for stocks, it is evident that the constitutional debility of the parent trees would naturally be inherited to a greater or less degree by the seedlings. Still the system of allowing the tree to exhaust itself by heavy and repeated crops in a light soil was adhered to, and generation after generation of seedlings, each more enfeebled than the former, at last produced a completely sickly and feeble stock of peach trees in those districts.

The great abundance of this fruit caused it to find its way more or less into all the markets on the sea-coast. The stones of the enfeebled southern trees were thus carried north, and, being esteemed by many better than those of home growth, were everywhere more or less planted. They brought with them the enfeebled and tainted constitution derived from the parent stock. They reproduced almost always the same disease in the new soil; and thus, little by little, the Yellows spread from its original neighbourhood, below Philadelphia, to the whole northern and eastern sections of the Union. At this moment it is slowly but gradually moving west; though the rich and deep soils of the western alluvial bottoms will, perhaps, for a considerable time, even without care, overpower the original taint of the trees and stones received from the east.

Let us now look a little more closely into the nature of this enfeebled state of the peach tree, which we call the Yellows.

Every good gardener well knows that if he desires to raise a healthy and vigorous seedling plant, he must select the seed from a parent plant that is itself decidedly healthy. Lindley justly and concisely remarks, "All seeds will not equally produce vigorous seedlings; but the healthiness of the new plant will correspond with that of the seed from which it sprang. For this reason it is not sufficient to sow a seed to obtain a given plant; but in all cases, when any importance is attached to the result, the plumpest and healthiest seeds should be selected, if the greatest vigor is required in the seedling, and feeble or less perfectly formed seeds, when it is desirable to check natural luxuriance."*

Again, Dr. Van Mons, whose experience in raising seedling fruit trees was more extensive than that of any other man, declares it as his opinion that the more frequently a tree is reproduced *continuously* from seed, the more feeble and short-lived is the seedling produced.

Still more, we all know that certain peculiarities of constitution, or habit, can be propagated by grafting, by slips, and even by seeds. Thus the *variegated* foliage, which is a disease of some sort, is propagated for ever by budding, and the disposition to mildew of some kinds of peaches is continued almost always in the seedlings. That the peach tree is peculiarly constant in any constitutional variation, the *Nectarine* is a well known proof. That fruit tree is only an accidental variety of the peach, and yet it is continually reproduced with a smooth skin from seed.

Is it not evident, from these premises, that *the constant sowing of the seeds of an enfeebled stock of peaches would naturally produce a sickly and diseased race of trees?* The seedlings will at first often appear healthy, when the parent had been only partially diseased, but the malady will sooner or later show itself, and especially when the tree is allowed to produce an over-crop.

That poor soil, and over-bearing, will produce great debility in any fruit tree, is too evident to need much illustration. Even the apple, that hardiest orchard tree, requires a whole year to recover from the exhaustion of its powers caused by a full crop. The great natural luxuriance of the peach enables it to lay in new fruit buds while the branches are still loaded with fruit, and thus, except in strong soil, if left to itself, it is soon enfeebled.†

* Theory of Horticulture.

† The miserably enfeebled state of some kinds of pears on the sea-coast, arising from unsuitable climate and the continual propagation by grafting from the same debilitated stock, is only a fair parallel to the Yellows in the peach tree.

There are some facts, in our every-day observation, which may be adduced in proof of this theory. In the first place, the varieties of this tree always most subject to this disease are the *yellow peaches;* and they, it is well known, also produce the heaviest crops. More than nine-tenths of the victims, when the disease first appeared, were the yellow-fleshed peaches. On the other hand, the white-fleshed kinds (those white and red externally) are much more rarely attacked; in some parts of the country never. They are generally less vigorous, and bear more moderate crops. And it is well worth remarking that certain fine old sorts, the ends of the branches of which have a peculiar, *mildewed* appearance, (such as the old Red Rareripe, the Early Anne, &c.,) which seems to check the growth without impairing the health, are rarely, if ever, attacked by the Yellows. Slow-growing and moderately productive sorts, like the Nutmeg peaches, are almost entirely exempt. We know an orchard in the adjoining county, where every tree has gradually died with the Yellows, except one tree which stood in the centre. It is the Red Nutmeg, and is still in full vigour. It is certainly true that these sorts often decay and suddenly die, but we believe chiefly from the neglect which allows them to fall a prey to the Peach Borer. Indeed the frequency with which the Borer has been confounded with the Yellows by ignorant observers, renders it much more difficult to arrive at any correct conclusions respecting the *contagious* nature of the latter disease.

It may be said, in objection to these views, that a disease which is only an enfeeblement of the constitution of a tree, would not be sufficient to alter so much its whole nature and duration as the Yellows has done that of the peach. The answer to this is, that the debility produced in a single generation of trees, probably would not have led to such effects, or to any settled form of constitutional disease. But it must be borne in mind that the same bad management is to a great extent going on to this day, the whole country over. Every year, in the month of August, the season of early peaches, thousands of bushels of fruit, showing the infallible symptoms of the Yellows—a spotted skin, &c.—are exposed and sold in the markets of New-York, Philadelphia and Boston. Every year more or less of the stones of these peaches are planted, to produce, in their turn, a generation of diseased trees, and every successive generation is even more feeble and sickly than the last! Even in the north, so feeble has the stock become in many places, that an excessive crop of fine fruit is but too frequently followed by the Yellows. In this total absence of proper care in the selection both of the seed and the trees, followed by equal negligence of good cultivation, is it surprising that the peach has become a tree comparatively difficult to preserve, and proverbially short-lived!

Abroad, it is well known that the peach is always subjected to a regular system of pruning, and is never allowed to produce an over-crop. It is not a little singular, both that the Yellows should never have originated there, and that, notwithstanding the great number of American varieties of this fruit that have been repeatedly sent to England and are now growing there, the disease has never extended itself, or been communicated to other trees, or even been recognized by English or French horticulturists. We must confess these facts appear to us strong proofs in favour of our opinion as to the nature and origin of the malady.

Remedy for the Yellows. It may seem to many persons a difficult task to rid ourselves of so wide-spread a malady as this, yet we are confident that a little perseverance and care will certainly accomplish it. In the present uncertainty with regard to its contagious nature, it is much the wisest course to reject "the benefit of the doubt," and act upon the principle that it is so. We know at the present moment several gardens, where the trees are maintained in good health by immediately rooting out and destroying every tree as soon as it shows marked symptoms of the malady.

1. We would therefore commence by exterminating, root and branch, every tree which has the Yellows. And another tree should not be planted in the same spot without a lapse of several years, or a thorough removal of the soil.

2. The utmost care should be taken to select seeds for planting from perfectly healthy trees. Nurserymen to secure this should gather them from the latest ripening varieties, or procure them from districts of the country where the disease is not known.

3. So far we have aimed only at procuring a healthy stock of trees. The most important matter remains to be stated—*how to preserve them in a healthy state.*

The answer to this is emphatically as follows: *pursue steadily, from the first bearing year, the shortening-in system of pruning*, already explained. This will at once secure your trees against the possibility of over-bearing, and its consequences, and maintain them in vigour and productiveness for a long time.* It will, in short, effectually prevent the Yellows where it does not already exist in the tree. To whoever will follow these precautions, pursue this mode of cultivation, and adopt at the same

* The following remarks, directly in point, are from Loudon's last work: "The effect of shortening the shoots of the peach is not merely to throw more sap into the fruit, but to add vigour to the tree generally, by increasing the power of the roots relatively to the branches. The peach being a short-lived tree, *it has been justly remarked by Mr. Thompson, were it allowed to expend all its accumulated sap every year, it would soon exhaust itself and die of old age.*" Suburban Horticulturist.

time the remedy for the Borer already suggested, we will confidently insure healthy, vigorous, long-lived trees, and the finest fruit. Will any reasonable man say that so fine a fruit as the peach does not fully merit them?

Whether the system of shortening-in and careful culture will prevent the breaking out of the Yellows when constitutionally *latent* in the tree, we will not yet undertake to say. A few more experiments will prove this. In slight cases of the disease we believe that it may. Of one thing, however, we are certain: it has hitherto failed entirely to reclaim trees in which the malady had once broken out. Neither do we know of any well attested case of its cure, after this stage, by any means whatever.* Such cases have indeed been reported to us, and published in the journals, but, when investigated, they have proved to have been trees suffering by the effects of the *borer* only.

A planter of peach trees must, even with care, expect to see a few cases of Yellows occasionally appear. The malady is too widely extended to be immediately vanquished. Occasionally, trees having the constitutional taint will show themselves where least suspected; but when the peach is once properly cultivated, these will every day become more rare until the original health and longevity of this fruit tree is again established.

The Curl is the name commonly given to a malady which often attacks the leaves of the peach tree. It usually appears in the month of May or June. The leaves curl up, become thickened and swollen, with hollows on the under, and reddish swellings on the upper side, and finally, after two or three weeks, fall off. They are then succeeded by a new and healthy crop of foliage. This malady is caused by the punctures of very minute aphides, or plant lice, (*Aphis Persicæ?*) which attack the under side of the leaves. Although it does not appear materially to injure either the tree or the crop, yet it greatly disfigures it for a time. In orchards, perhaps few persons will trouble themselves to destroy the insect, but in gardens it is much better to do so. A mixture of whale-oil soap, or strong soft soap and water, with some tobacco stems boiled in it, and the whole applied to the branches from below with a syringe or garden engine, will soon rid the tree of the insects for one or more years. It should be done when the leaves are a third grown, and will seldom need repeating the same season.

Varieties. The variety of fine peaches cultivated abroad is about fifty; and half this number embraces all that are highly

* All the specific applications to the root of such substances as salt, ley, brine, saltpetre, urine, &c., recommended for this disease, are founded on their good effects when applied against the *borer*. They have not been found of any value for the Yellows.

esteemed and generally cultivated in Europe. Innumerable seedlings have been produced in this country, and some of them are of the highest excellence. One or two of our nurserymen's catalogues enumerate over a hundred kinds, chiefly of native origin. Half of these are second rate sorts, or merely local varieties of no superior merit, and others are new names for old sorts or seedlings newly produced, and differing in no essential respects from old varieties. It is very desirable to reduce the collection of peaches to reasonable limits, because, as this fruit neither offers the same variety of flavour nor the extent of season as the apple and pear, a moderate number of the choicest kinds, ripening from the earliest to the latest, is in every respect better than a great variety, many of which must necessarily be second rate.

It is worthy of remark that most of our American varieties, of the first quality, have proved second rate in England. This is owing to the comparative want of sun and heat in their climate. Indeed our finest late peaches will not ripen at all except under glass, and the early varieties are much later than with us. On the other hand, many of the best European sorts are finer here than in England, and we have lately endeavoured to introduce all of the foreign sorts of high quality, both with the view of improving our collection, and because we believe

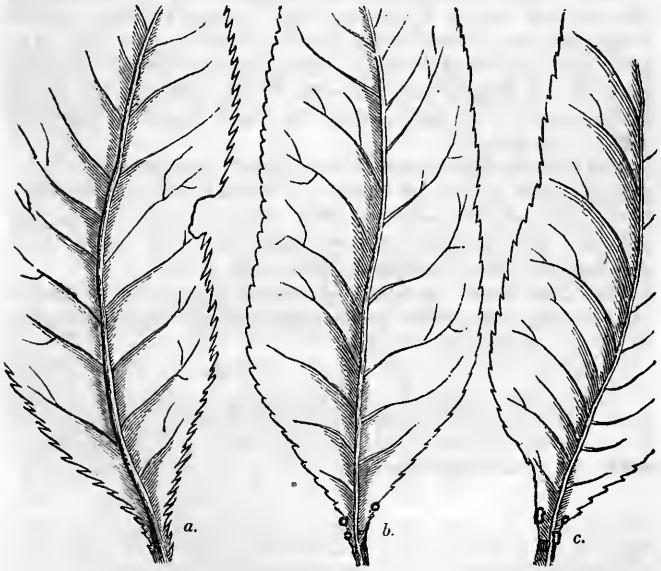


Fig. 211. *Characters in the leaves of peaches.*

they are generally purer and healthier in constitution than many of our own native kinds.

In the description of peaches and nectarines the form and outlines of many kinds are so nearly similar that we are obliged to resort to other characteristics to distinguish the varieties. The two most natural classes into which the kinds of this fruit are divided, are *freestones* and *clingstones*, (*melters* and *pavies*, of the English;) the flesh of the former parting freely from the stone, that of the latter adhering.

Next to this, the strongest natural distinction is found in the *leaves* of the peach. At the base of the leaves of certain kinds are always found small *glands*, either round and regular, or oblong and irregular, while the leaves of certain other kinds have no glands, but are more deeply cut or *serrated* on the margin. These peculiarities of the foliage are constant, and they aid us greatly in recognising a variety by forming three distinct classes, viz.: 1. Leaves serrated and *without glands*, Fig. 211, *a*. 2. Leaves with small round or *globose glands*, *b*. 3. Leaves with large, irregular, *reniform glands*, *c*.

This distinction of leaves is valuable, because it not only assists us when we have the fruit before us, but it may be referred to, for the sake of verifying an opinion, at any time during the season of foliage.

There is also another class of characteristics to be found in the *blossoms* which is constant and valuable; though not so much so as that of the leaves, because it can only be referred to for a few days in the spring. The blossoms afford two well marked sub-divisions: 1st. Large flowers, always red in the centre, and pale at the margin; 2d. Small flowers, tinged with dark at the margin.*

The most desirable peaches for market growers in this country are very early and very late kinds. These command double the price in market of kinds ripening at the middle season. For New England, and the north, only the earliest kinds are desirable, as the late ones seldom mature well.

We shall divide peaches into three classes. 1. *Freestone Peaches* with *pale flesh*. 2. *Freestone Peaches* with *deep yellow flesh*. 3. *Clingstone Peaches*.

* Lindley makes a third division, embracing a few sorts with blossoms of an intermediate size. But it is of no practical value, as any doubt as to which of the two divisions any blossom belongs is immediately set at rest by the *colour* of the blossom.

CLASS I.

Freestone Peaches, with pale flesh.

Acton Scott. Lind. Thomp.

The Acton Scott is an English peach, raised by Mr. Knight. It is an excellent early fruit, and will thrive and ripen well at the north.

Leaves with globose glands. Fruit of medium size, rather narrow and depressed at the top, with a shallow suture. Skin rather woolly, pale yellowish-white, with a marbled, bright red cheek. Flesh pale quite to the stone, melting, sugary, and rich, with sometimes a slight bitter flavour. Middle of August. Flowers large.

Astor. Floy.

An American peach, which originated in New York. It is good, but hardly first rate; not very productive.

Leaves with globose glands. Fruit large, rather flattened or broad, and slightly sunk at the top; suture well marked. Skin pale yellowish-white, with a deep red cheek. Stone small. Flesh melting, very juicy, sweet, and of excellent flavour. Ripens the last week in August. Flowers large.

Baldwin's Late.

Glands reniform. Flowers small. Fruit large, oblong, with a distinct swollen point. Skin greenish-white, with a slight red cheek. Flesh very firm, juicy, melting, and well flavoured. Freestone. Ripe the last of October, and will keep a long time. Disseminated by Dr. Baldwin, of Montgomery. (White's Gard.)

Barrington. P. Mag. Thomp. Lind.

Buckingham Mignonne. Colonel Ausleys.

A handsome, very fine, and very hardy English peach. The tree is vigorous and healthy. The fruit ripens at the medium season, about a week after the Royal George.

Leaves with globose glands. Fruit large, roundish, inclining to ovate, and rather pointed at the top, with a moderate suture on one side. Skin pale yellowish-white, with a deep red, marbled cheek. Flesh but slightly tinged with red at the stone; melting, juicy, very rich, and of the first quality. Stone rugged, dark brown. Beginning of September. Flowers large.

Batchelder.

Origin, Haverhill, Mass. Hardy and productive; said to pro-

duce the same from seed. Fruit large, round. Skin white, with a deep blush. Flesh white, melting, juicy, very pleasant vinous flavour. Last of September. (Cole.)

Baugh.

Leaves with reniform glands. Fruit medium, roundish, terminated with a small point; suture obscure. Flesh pale yellow, almost white (pure white at the stone), with a slight blush towards the sun. Flesh yellowish-white, melting, and juicy, with a sweet, pleasant flavour; separates from the stone. Ripens the first of October. (White's Gard.)

Bellegarde. O. Duh. Lind. Thomp.

Galande. } *Nois and the*
Noir de Montreuil. } *French.*

Violette Hâtive, } *of many English gardens.* Brentford Mignonne.
Violette Hâtive Grosse, } Ronald's Mignonne.
French Royal George, } Large Violet.
Smooth-leaved Royal George, } Early Garlande, (*of some.*)

Early Royal George, } *incorrectly of some*
Red Magdalen, } *American gardens.*

This very excellent French peach is the one most highly esteemed by the Montreuil growers, who supply the Paris markets, and it is equally valued by the English. It is also one of the handsomest and most delicious fruits here.

Leaves with globose glands. Fruit large, round, and regular, the suture shallow, the top slightly hollowed, and having a little projecting point. Skin pale yellowish-green, with a rich red cheek, often streaked with darker purple. Flesh slightly marked with red at the stone, a little firm, but very melting, juicy, rich, and high-flavoured. Stone rather large. End of August, and first of September. Flowers small.

Brevoort.

Brevoort's Morris.
Brevoort's Seedling Melter. *Floy.*

One of the richest and most delicious of American peaches, and one of the favourite sorts for garden cultivation. It was raised some years ago by Henry Brevoort, Esq., of New York. Bears regular, moderate crops.

Leaves with reniform glands. Fruit medium or large, round, and rather broad, with a distinct suture, deep at the top. Skin pale yellowish-white, often a little dingy, with a bright red cheek. Flesh rather firm, slightly red at the stone, rich, sugary, and high-flavoured. First of September. Flowers small.

Belle de Vitry. Duh. Lind. Thomp.

Admirable Tardive. Bellis. *Mil.*

This is not the Belle de Vitry of most of our gardens, which is the *Early Admirable;* it is quite distinct, also, from the *Late Admirable;* but is the Belle de Vitry described by Duhamel, and is a very firm-fleshed and excellent French variety, little known in this country.

Leaves serrated, without glands. Fruit middle size, rather broad, with a deep suture, the top depressed. Skin pale yellowish-white, tinged and marbled with bright and dull red. Flesh rather firm, red at the stone, melting, juicy, and rich. Ripens here the last of September. Flowers small.

Briggs.

Origin, Dedham, Mass. Hardy and productive. Fruit large, roundish; suture continued almost round it. Skin white, nearly covered with bright red. Flesh white, tinged with red at the stone; very juicy, of a rich, sweet, slightly vinous flavour. Freestone. From first to middle of September. (Cole.)

Cambridge Belle.

Hovey's Cambridge Belle.

Raised by Hovey & Co., Boston, Mass.

Fruit large, roundish. A beautiful peach, with a clear waxen skin, and a blush on the exposed side, and of a rich, brisk, delicious flavour. Freestone. Ripe early in September. (Hov. Mag.)

Carpenter's White.

Raised by William S. Carpenter, upper part of New York City.

Tree vigorous and productive; leaves very large, serrulate, with globose glands. Fruit very large and round. Skin white, with a slight shade of green. Flesh white to the stone, juicy, melting, rich, and of excellent flavour; separates from the stone. Ripens about the middle of October, and promises to be a valuable late market variety. (P. B. Mead, MS.)

Chancellor. Mill. Lind. Thomp.

Chancellière, var. O. Duh.
Noisette.
Late Chancellor.
Stewart's Late Galande
Edgar's Late Melting.

The Chancellor is a celebrated French peach, long cultivated and highly esteemed abroad. It is said to have been originated by M. de Seguier, of Paris, then Chancellor of France,

Leaves with reniform glands. Fruit large, oval, with a well-marked suture. Skin pale yellowish-white, with a dark crimson cheek. Flesh very deep red next the stone, melting, and possessing a rich, vinous flavour. Stone oblong. Middle of September. Flowers small.

Clinton.

A native variety, of second rate flavour.

Leaves with globose glands. Fruit of medium size, roundish, a little depressed at the top, but nearly without suture. Skin pale yellowish-white, with a red cheek marked by broken stripes of dull red. Flesh scarcely stained at the stone, juicy, and good. Last of August. Flowers large.

Cole's Early Red.

A new American peach, which is a very fruitful and excellent variety for market culture.

Leaves with globose glands. Fruit of medium size, roundish, with but little suture. Skin pale in the shade, but nearly all covered with red, becoming dark red on the sunny side. Flesh melting, juicy, rich, and very sprightly. Beginning to the middle of August. Flowers small.

Cooledge's Favourite. Man. Ken.

Cooledge's Early Red Rareripe.

This most popular early New England peach was raised from seed by Mr. J. Cooledge, of Watertown, Mass. It is unusually productive, and a very bright coloured, handsome peach, of excellent quality; and its hardiness renders it valuable at the north.

Leaves with globose glands. Fruit large, roundish (the suture prominent at the top only), but rather the largest on one side. Skin clear, smooth, white, with a fine crimson mottled cheek. Flesh very melting and juicy, with a rich, sweet, and high flavour. Middle of August. Flowers small.

Columbus, June.

Glands reniform. Flowers small. Fruit medium to large, flattened or slightly hollowed at the apex; suture shallow. Skin pale yellowish-white, with a rich red cheek. Flesh slightly red at the stone, melting, juicy and high-flavoured, excellent. Ripens here 20th June. Productive. Free. (White's Gard.)

Double Montagne. Lind. Thomp.

Double Mountain. Montagne.
Montauban.

A high-flavoured and beautiful peach, much resembling the

Noblesse. It is of French origin, and is a favourite variety with the English gardeners. We think it one of the finest peaches in this climate.

Leaves serrated, without glands. Fruit of medium size, roundish, but somewhat narrower at the top. Skin pale greenish-white, with a soft red cheek, which is marbled with darker red at maturity. Flesh white to the stone, very delicate and melting, with a plentiful and high-flavoured juice. Stone ovate and rugged. Middle of August. Flowers large.

Druid Hill.

Originated by Lloyd N. Rogers, Esq., of Druid Hill, near Baltimore. The tree is unusually vigorous, the shoots and leaves very large, and it bears abundantly. The very late season of its maturity renders it valuable, as most of the luscious sorts are then gone.

Leaves with globose glands. Fruit large, roundish; the cavity at the stalk rather narrow, the suture very slight, and the swollen point distinct, but scarcely prominent. Skin pale greenish-white, clouded with red on the sunny side. Flesh greenish-white, purple at the stone, very juicy and melting, with an exceedingly rich, high vinous flavour. Stone long and rather compressed, much furrowed. Ripens from the 20th of September to the 1st of October. Flowers small.

Early Anne. Lind. Thomp.

Anne. *Lang. Forsyth.* Green Nutmeg.

The Early Anne is an old and familiar English sort. It is the first peach of any value that ripens, the Red and White Nutmegs being too small, and of indifferent flavour; and the Early Anne, itself, is so inferior to the *Early Tillotson* (which ripens at the same time), that it will soon scarcely be cultivated, except by amateurs. The tree is of slender growth.

Leaves serrated, without glands. Fruit rather small, round. Skin white, with a faint tinge of red next the sun. Flesh white to the stone, soft, melting, sweet, and of pleasant flavour. Last of July, and first of August. Flowers large, nearly white.

Fay's Early Anne, a seedling of the above by Lincoln Fay, of Chautauque Co., N. Y., is larger and better; ripens a week or two later, and just before Early York (serrate). Skin whitish, sometimes slightly tinged with red. Flesh white, juicy, melting, and very good.

Early Tillotson,

The Early Tillotson is considered by many persons one of the best of the very early freestone peaches. It is a variety from

central New York, first introduced to notice by our friend, J. J. Thomas, of Macedon, Wayne county. It is considered a native of that part of the State.

This has not succeeded well here, and most cultivators at the north have discontinued it. It mildews badly, grows slowly, and is not productive. At the south it is one of their very best early peaches, and in many localities it has proved fine.

Leaves deeply serrated, without glands. Fruit of medium size, round. Skin nearly covered with red, the ground-colour, pale yellowish-white, being thickly dotted with red, and the exposed cheek being a dark red. Flesh whitish, but red at the stone, to which, though a freestone, it partially adheres, melting, juicy, with a rich, highly excellent flavour. It ripens the middle of August. Flowers small.

Early York.

Early Purple. Pourprée Hâtive.
Serrate Early York.

The Early York has long been the most popular of early peaches in this country. It is at least a week earlier than the (true) Royal George, more melting and juicy, though not quite so rich, and deserves a place in every garden. In unfavourable soil, the ends of the branches are a little liable to mildew; but the tree is very hardy and productive. There are one or two newer seedlings raised from this, and bearing the same name, in New Jersey, which are rather more thrifty for the orchard, but do not possess the high *flavour* of the old kind. They are easily known from it by the absence of glands in the leaves and by the large flowers of the true sort. It is quite distinct from the Red Rareripe, which is large, broader, deeply marked with a suture, later in ripening and richer flavoured.

Leaves serrated, without glands. Fruit of medium size, roundish, inclining a little to ovate, with a slight suture only. Skin very thin, pale red thickly dotted over a pale ground in the shade, but quite dark red in the sun. Flesh greenish-white, remarkably tender and melting, full of rich, sprightly juice. Ripens about the 18th of August. Flowers large.

Early Newington Freestone.

Newington Peach, } *of many Am. gardens.*
Early Newington, }

This is a large, and exceedingly high-flavoured, early peach; indeed, we consider it without a superior at its season. It is quite distinct from the other Newingtons, which are clings and rather late, while this is early and generally parts from the stone, though it frequently happens that some of the fruit on

the same tree adheres partially or wholly to the stone; and this peculiarity (common, so far as we know, to but one other kind) is one of its constant characteristics. It has been cultivated here, and disseminated for the last twenty years, and we suppose it to be an American variety. The tree is only a moderate bearer. Leaves with globose glands. Fruit rather large, round, with a distinct suture, and one half the fruit always the larger. Skin pale yellowish-white, dotted and streaked with red, the cheek a rich red. Flesh white, but red at the stone, to which many particles adhere. If not fully ripe, it has the habit of a cling. Flesh juicy, melting, with a rich vinous flavour. Ripens directly after the Early York, about the 24th of August. Flowers small.

Early Sweet Water. Floy. Thomp.

Sweet Water. Large American Nutmeg.

A very early, and very agreeable white peach, among the best of its season, as it ripens early in August, not long after the Early Anne, and ten days or more before the Early York. It is an American peach, raised from a stone of the Early Anne. It is so much larger and superior to the Early Anne, or any of the Nutmeg peaches, that it has almost driven them out of our gardens. The tree is thrifty and productive, with pale shoots, and nearly white blossoms.

Leaves with globose glands. Fruit of medium size, sometimes large, roundish, with a slight suture. Skin pale white, very seldom with a faint blush when fully exposed. Flesh white, slightly stained at the stone, melting, juicy, sweet, and of very agreeable flavour. Ripe about the 8th of August. Stone small. Flowers large.

Early Sweet Water (Prince's) is distinct from this, and Mr. Prince says equally valuable.

Early Malden.

Raised by James Dougall, Canada West. Has not proved as good here as serrate Early York, but much like it in growth. Flowers small. Leaves glandless. Fruit medium, roundish, one side enlarged; suture distinct on one side. Skin whitish, mostly shaded with red in the sun. Flesh white, juicy, melting, sprightly. Freestone. Middle of August.

Early Admirable. Lind. Thomp.

Admirable. L'Admirable.
Belle de Vitry, (*Bon Jardinier.*)

A very excellent French peach, wrongly known by many in

this country as the Belle de Vitry, which is a distinct variety. We find it early, and very prolific.

Leaves with globose glands. Fruit not quite round. Skin pale yellowish-white, with a lively red cheek. Flesh red next the stone, melting, and juicy, with a good, rich, sweet flavour. Middle of August. Flowers large.

Early Chelmsford.

Mammoth.

Leaves glandless. Fruit large, roundish; suture clear round, deep on one side. Skin white, with a bright red cheek. Flesh white, very melting and juicy; of a very delicious, slightly vinous flavour. Freestone. 20th to last of August. Hardy, vigorous, and productive; one of the best, handsomest, and largest of early peaches. (Cole.) It also succeeds well at the south, and is one of their most profitable market varieties.

Edward's Late White.

From Dr. Baldwin, Montgomery, Alabama. Fruit large, roundish, depressed at the summit. Suture distinct; point at the apex small and slightly sunken. Skin moderately downy, white, with a beautiful waxen red cheek. Flesh white, red at the stone, slightly adherent; sweet, juicy, and of excellent flavour. Ripe first of October, and continues all the month. (Wm. N. White, MS.)

Emperor of Russia. Floy. Thomp.

Cut-Leaved. Serrated.
New Cut-Leaved Unique.

A very rich and fine-flavoured peach, raised by Mr. Floy, in 1812. Its growth is slow, and its shoots are inclined to become mildewed. It is rather a shy bearer here. The leaves are very deeply cut, or serrated on the edges.

Leaves serrated, without glands. Fruit large, roundish, and broad, with one half more swollen than the other. Skin downy, dull yellowish-white, with a dark red cheek. Flesh yellowish-white, rather firm, rich, and high-flavoured. Last of August. Flowers small.

Favourite. Coxe.

Favourite Red.

A capital orchard fruit, of large size, hardy, and a most abundant bearer. It is a very good native peach, though not of high flavour.

Leaves with obscure, globose glands, often with none. Fruit large, oblong or oval. Skin white, rather downy, much covered

with red, which becomes a very dark red when fully exposed in the sun. Flesh red at the stone, a little firm, but juicy, with a good, vinous, but not rich flavour. Second week in September. Flowers small.

Fox's Seedling.

A good and productive late peach, a native of New-Jersey. Leaves with globose glands. Fruit round, a little compressed, cavity at the stalk narrow. Skin white, with a red cheek. Flesh melting, juicy, sweet, and good. Middle of September. Flowers small.

Fulkerson.

Fulkerson's Early.

Originated with R. P. Fulkerson, Ashland, Ohio. Hardy and productive. Fruit medium, obtuse, rounded; sides irregular, unequal; suture half round. Skin whitish, rich red cheek. Flesh whitish-yellow, tinged with red at the pit. Juicy, rich, sweet, and high-flavoured. Freestone. 20th August. (Elliott.)

George the Fourth. Floy. Lind. Thomp.

This is certainly the most popular peach for garden culture in the United States. It is large, bears regular and moderate crops, is of the highest flavour, and the tree is unusually hardy and vigorous, succeeding well in all parts of the country. No garden should be without it. The original tree stood, not long since, in the garden of Mr. Gill, Broad-street, New-York.

Leaves large, with globose glands, often obscure. Fruit large, round, deeply divided by a broad suture, and one half a little larger than the other. Skin pale yellowish-white, finely dotted with bright red, and deepening into a rich dark-red cheek on one side. Flesh pale, marked with red at the stone (which is small), melting, very juicy, with a remarkably rich, luscious flavour. Ripens the last of August. Flowers small.

Large Early York, Honest John, and Haine's Early Red, are said to be synonymous with this. Further trial is necessary to decide.

Gorgas.

Originated with Benjamin Gullis, Philadelphia. Growth vigorous. Leaf glandless. Flowers small. Size rather large, roundish, with a small swollen point at the apex. Skin yellowish-white, clouded, and blotched with red on the exposed surface; dull greenish on the shaded parts. Suture indistinct; cavity deep and wide. Flesh whitish, slightly stained at the stone; juicy, non-adherent. Flavour saccharine, and exceedingly lus-

cious; quality "best." Maturity about 20th September. (Dr. W. D. Brinckle, MS.)

Green Catharine.

Origin uncertain. Glands globose. Flowers small. Fruit large, roundish. Skin pale green, with a red cheek only when exposed to the sun. Flesh greenish-white, red at the stone, very juicy, melting, and very good flavour. Freestone. Requires a warm season to bring it to perfection. Ripe from the first to middle of September.

Grosse Mignonne. O. Duh. Lind. Thomp.

Royal Kensington.
Grimwood's Royal George.
——— New Royal George.
Large French Mignonne.
French Mignonne.
Swiss Mignonne.
Purple Avant.
Early Purple Avant.
Early May.
Early Vineyard.
Neil's Early Purple.
Johnson's Early Purple.

Of various English and French gardens, according to Thomp.

Vineuse de Fromentin.
Mignonne.
Veloutée de Merlet.
Vineuse.
Pourprée de Normandie.
Belle Beauté.
Belle Bausse.
La Royal (*of some*).
Pourprée Hâtive (*of some*).
Ronald's Seedling Galande.
Royal Sovereign.
Superb Royal.

The Grosse Mignonne is certainly the "world renowned" of peaches. In France, its native country, in England, in America, in short everywhere, it is esteemed as one of the most delicious of varieties. It is a good and regular bearer, a large and handsome fruit, is a favourite for those who have to grow peaches under glass, and ripens the best crops even in a rather unfavourable climate, like that of Boston. The great number of names by which it is known abroad (and we have not quoted all), proves the universality of its cultivation.

Leaves with globose glands. Fruit large, roundish, always somewhat depressed, and marked with a hollow suture at the top. Skin pale greenish-yellow, mottled with red, and having a purplish red cheek. Flesh yellowish-white, marked with red at the stone, melting, juicy, with a very rich, high, vinous flavour. Stone small, and very rough. Middle of August, before the Royal George. Flowers large.

Haines' Early Red.

An early peach, originated in New Jersey, of very fine flavour, and so hardy and productive as to be a popular orchard fruit.

Leaves with globose glands. Fruit of medium size, round, depressed at the top, with a well-marked suture extending round the fruit, one half larger than the other. Skin pale white

marked with red, and nearly covered with deep red. Flesh greenish-white, very juicy, melting, sweet, and well-flavoured. Middle of August. Flowers small.

Hastings' Rareripe.

Origin unknown. Globose glands. Flowers small. Fruit above medium, round, often a little flattened. Skin yellowish-white, having a purplish-red cheek on the sunny side, shaded off with specks of the same colour. Productive, juicy, and of delicious flavour. Middle of September. (Manning.)

Hâtive de Ferrières.

A new early French variety. Fruit medium, roundish; suture shallow; one side a little enlarged. Skin white, nearly covered with rich red. Flesh white, slightly tinged at the stone, juicy, melting, with a sweet, rich, vinous flavour. Freestone. Ripe last of August, just after Early York.

Henry Clay.

A southern peach, introduced and described in the Horticulturist by Rev. A. B. Lawrence, Woodville, Miss. Fruit very large. Skin deep purple in the sun, shading to bright pink and creamy white. Flesh grayish-white, delicate, tender, peculiar flavour, partaking slightly of pine-apple and strawberry. First of August; September at the North. Freestone.

Jane.

Baxter's Seedling, No. 1.

Origin, Philadelphia, Pa. Fruit large, ten and one-half inches in circumference; roundish, oblate, greenish yellowish-white, with a red cheek. Free. Flavour delicious; quality very good to best. Season, last of September and first of October. (Ad. Int. Rep.)

Jones' Early.

Raised by S. T. Jones, Staten Island, N. Y. Globose glands. Fruit medium, roundish; suture shallow, distinct, extending around the fruit. Skin yellowish-white, tinged with pale red in the sun. Flesh yellowish-white, slight red at the stone, juicy, rich, and excellent. Middle of August. (Hov. Mag.)

Jones' Large Early.

Raised by T. S. Jones. Glands reniform. Fruit large, round-

ish, flattened at each end; suture deep, one half a little larger than the other. Skin delicate white, broadly shaded with deep crimson in the sun. Flesh white, pink at the stone, very juicy, rich, sprightly, and delicious. Freestone. Middle of August. (Hov. Mag.)

Kenrick's Heath. Ken.

Freestone Heath.

A large, showy, oblong peach, often growing to the largest size, and a very hardy tree, but the quality of the fruit is only second rate. This sort, which is a native of New-England, is vigorous, and bears large crops. It is quite distinct from the celebrated Heath Cling.

Leaves with reniform glands. Fruit very large, oblong, with a slight suture, and a small swollen point at the top. Skin pale greenish-white, with a purplish red cheek. Flesh greenish-white, deep red at the stone, a little coarse, melting, quite juicy, with a pleasant sub-acid flavour. Middle of September. Flowers small.

Lady Parham.

Glands reniform. Flowers small. Fruit large, roundish, one side larger than the other, depressed at the summit; suture distinctly marked, the swollen point small. Skin yellowish-white, downy. Flesh pale, red at the stone, firm, with a rich, vinous flavour, resembling Baldwin, but superior. Middle of October. Freestone. (W. N. White, MS.)

La Grange.

The La Grange is a white freestone peach, of very late maturity, large size, and fine flavour. It was originated from seed five or six years ago in the garden of Mr. John Hulse, Burlington, New-Jersey.

Its late period of maturity, its colour, its productiveness, and size, have already given it quite a reputation among the extensive growers of New-Jersey, and it is undoubtedly a most valuable fruit, not only for the table but for preserving at the most desirable period for this purpose, late in the season. It was first brought into notice and disseminated by Mr. Thomas Hancock.

Leaves with reniform glands. Fruit large, oblong, shaped somewhat like the Heath Cling. Skin greenish-white, with occasionally some red on the sunny side. Flesh pale, juicy, melting, very rich, sweet, high-flavoured, and delicious. Last of September, and beginning of October. Flowers small.

Late Admirable. Lind. Thomp.

Royale. *O. Duh.*	Téton de Venus.
La Royale.	French Bourdine.
Péche Royale.	Judd's Melting.
Bourdine.	Motteux's.
Boudin.	Pourprée Tardive, *incorrectly*
Narbonne.	Late Purple, *of some.*

"The Late Admirable," says Mr. Thompson, "is one of the very best of late peaches, and ought to be in every collection;" an opinion in which we fully concur. It is one of those delicious sorts that, originating a long time ago in France, have received the approval of the best cultivators everywhere. It is hardy and productive in this climate.

Leaves with globose glands. Fruit very large, roundish, inclining to oval, with a bold suture dividing the fruit pretty deeply all round, and a small, acute, swollen point at the top. Skin pale yellowish-green, with a pale red cheek, marbled with darker red. Flesh greenish-white, but red at the stone; very juicy, melting, and of delicate, exquisite flavour. Middle of September. Flowers small.

Madeleine de Courson. Thomp. Lelieur. Lind.

Red Magdalen (*of Miller*).	Madeleine Rouge. *O. Duh.*
True Red Magdalen.	Rouge Paysanne.
French Magdalen.	

The Red Magdalen of Courson is a favourite old French peach, very little known in this country; the Red Magdalen of many of our gardens being either a spurious sort, or the Royal George. It is an excellent, productive peach, hardy, and worthy of more general cultivation.

Leaves serrated, without glands. Fruit of medium size, or rather below it, round, flattened, with a deep suture on one side. Skin pale yellowish-white, with a lively red cheek. Flesh white, slightly red at the stone, juicy, and melting, with a rich, vinous flavour. Middle and last of August. Flowers large.

Malta. Lind. Thomp. P. Mag.

Péche Malte. *O. Duh.*	Balian.
Malte de Normandie.	Itelle de Paris.

A most delicious, old European peach, of *unsurpassable* flavour. The tree is not a great bearer, but it is hardy and long lived, and richly deserves a place in every garden. There is a spurious sort sold under this name in the United States, which is easily known by its globose glands. The fruit of the Malta keeps well after being gathered.

Leaves serrated, without glands. Fruit of rather large size,

roundish, flattened, with a broad, shallow suture on one side. Skin pale, dull green, marked on the sunny side with broken spots, and blotches of dull purple. Flesh greenish, with a little dark red at the stone, very juicy and melting, with a peculiarly rich, vinous, piquant, and delicious flavour. Last of August. Flowers large.

Morris's Red Rareripe.

Morris Red.
Red Rareripe.
Large Red Rareripe.
} *Of some.*

This very popular and well-known American peach has the reputation of having originally been disseminated from the garden of Robert Morris, Esq., of Philadelphia. It is everywhere justly esteemed for its acknowledged good flavour, beauty, and productiveness. Mr. Kenrick, and some other American writers, have erred in supposing it synonymous with the Grosse Mignonne, which is quite different, both in the colour of its skin and flesh as well as in its flavour and blossoms.

Leaves with small globose glands. Fruit large, roundish, a little depressed at the top, with a moderately well-marked suture. Skin fine pale greenish-white, a little dotted, and with a lively, rich red cheek. Flesh pale, greenish-white, quite red at the stone, very melting and juicy, with a sweet and rich flavour. Last of August. Flowers small.

Morris's White Rareripe.

Morris's White.
White Rareripe.
Luscious White Rareripe.
Lady Ann Steward.
} *Of various American gardens.*
White Melocoton.
Cole's White Melocoton.
Freestone Heath.
Morris's White Freestone. *Floy.*

Morris's White Rareripe, a native, is the most popular and well-known white peach, and is everywhere cultivated in this country, either under this or some of the other names quoted above. It is a rich fruit in a warm climate, but is not quite so high flavoured at the north or east. The tree is vigorous and healthy, and bears fair crops. In some sections tender and variable in quality.

Leaves with reniform glands. Fruit rather large, oval; suture only of moderate depth, swollen point small. Skin rather downy, greenish-white on all sides at first, but white with a creamy tint when fully ripe; and, when fully exposed, sometimes with a slightly purple cheek. Flesh white to the stone, a little firm, melting, juicy, sweet, and rich. Middle of September. Flowers small.

Morrisania Pound. Thomp.

Hoffman's Pound. *Floy.* Morrison's Pound.

A very large and late variety, originated, many years ago, by

Martin Hoffman, Esq., but first disseminated from the garden of Gouverneur Morris, of Morrisania, near New York. It is a good fruit, but its place has been taken, of late, by other more popular sorts.

Leaves with globose glands. Fruit very large and heavy, nearly round. Skin dull greenish-white, with a brownish-red cheek. Flesh pale yellow, firm, juicy, sugary, and rich in flavour. Ripens the middle and last of September. Flowers small.

Molden's White.

Origin, Molden Mountain, on the Chesapeake; a fine white peach, valuable for its lateness.

Fruit large, oblong; suture on one side, distinct; one side usually a little larger than the other. Skin creamy white, rarely with a tinge of red. Flesh white to the stone, juicy, sweet, melting, and excellent. Separates from the stone. Ripe last of September, and first of October. (Thos. Harvey, MS.)

Moore's Favourite.

Origin, garden of H. R. Moore, Chelsea, Mass. Tree hardy, vigorous.

Glands globose. Fruit large, roundish; suture round the fruit. Skin white, with a broad, bright blush. Flesh white, fine, juicy, of a rich vinous flavour; stone small. Free. September 1st to 15th. (Cole.)

Moore's June.

Below medium, globular; suture shallow; cavity deep. Skin yellowish, nearly covered in the shade with red dots and marblings, and deep red in the sun. Flesh white, marbled with red from the skin to the stone in the darker coloured ones, but red only at the stone where grown in the shade, juicy, vinous, pleasantly flavoured and good. Last of June and first of July. Flowers small. Glands reniform. (Freestone.) Origin, Athens, Ga. (Wm. N. White, MS.)

Montgomery's Late.

Glands reniform. Flowers large. Fruit large, round, depressed at apex; suture shallow, but distinct. Skin downy, yellowish-white, dotted with red and having a dull red cheek. Flesh pale white, red at the stone, very juicy, melting, and of very fine flavour. Ripens the first of September, and continues nearly all the month. Separates from the stone. A hardy and desirable kind. (Wm. N. White, MS.)

Nivette. O. Duh. Lind. Thomp.

Nivette Veloutée. Veloutée Tardive.
Dorsetshire.

The Nivette is an excellent French variety, much resembling the Late Admirable.

Leaves with globose glands. Fruit large, roundish, inclining to oval; suture shallow, and the top slightly depressed. Skin pale green, with a lively red cheek. Flesh pale green, but deep red at the stone, juicy, melting, and very rich. Beginning and middle of September. Flowers small.

Noblesse. Lang. Lind. Thomp.

Vanguard. Mellish's Favourite.
Lord Montague's Noblesse.

An English peach of the highest reputation, and which in this country is esteemed wherever known, as one of the largest, most delicious, and most valuable varieties. The tree is hardy and productive, and every cultivator should possess it. In England it is one of the favourite kinds for forcing and wall culture, yielding regular and abundant crops of beautiful, pale fruit.

Leaves serrated, without glands. Fruit large, roundish oblong, a little narrowed at the top, and terminated by an acute swollen point. Skin slightly downy, pale green throughout, marked on the cheek with delicate red, clouded with darker red. Flesh pale greenish-white to the stone, melting, very juicy, with a very high and luscious flavour. Last of August. Flowers large.

Nutmeg, Red. Mill. Lind. Thomp.

Avant Rouge. *O. Duh.* Brown Nutmeg.
Avant Pèche de Troyes. Early Red Nutmeg.
Red Avant.

The Red Nutmeg is a very small and inferior peach, which has long been cultivated solely on account of its earliness. It is now seldom seen in our gardens, being abandoned for better sorts. It is desirable, however, in a complete collection. Both this and the following are European varieties. The tree grows slowly, and is of dwarf habit.

Leaves small, with reniform glands. Fruit small, roundish, with a distinct suture, terminating in a small, round, swollen point at the top. Skin pale yellow, with a bright, rich red cheek. Flesh yellowish-white, red at the stone, with a sweet and rather pleasant flavour. Middle and last of July. Flowers large.

Nutmeg, White. Mill. Lind. Thomp.

Avant Blanche. *O. Duh.* White Avant.
Early White Nutmeg.

The White Nutmeg resembles the foregoing in its general habit, being dwarfish, and of slender growth. It is the smallest of peaches, the flavour is inferior, and it is only esteemed by curious amateurs as ripening a few days earlier than any other variety.

Leaves serrated, without glands. Fruit very small, rather oval, with a deep suture extending a little more than half round. Skin white, or rarely with a pale blush. Flesh white to the stone, with a sweet and slightly musky, pleasant flavour. Ripens about the 10th or 15th of July. Flowers large.

Oldmixon Freestone. Pom. Man.

Oldmixon Clearstone. *Coxe.*

A large American peach, of late maturity and rich flavour. It was, we believe, raised either from a stone of the Catherine Cling, or the Oldmixon Cling, the latter having been brought to this country many years ago by Sir John Oldmixon. It bears good crops, and is a valuable variety.

Leaves with globose glands. Fruit large, roundish, or slightly oval, one side swollen, and the suture visible only at the top; cavity but slightly sunk at the stalk. Skin pale yellowish-white, marbled with red, the cheek a deep red. Flesh white, but quite red at the stone, tender, with an excellent, rich, sugary and vinous flavour. Beginning of September. Flowers small.

President. P. Mag. Lind. Thomp.

One of the best of our peaches, and a capital variety. Originated, several years ago, on Long Island.

Leaves with globose glands. Fruit large, roundish-oval, the suture shallow. Skin very downy, pale yellowish-green, with a dull red cheek. Flesh white, but deep red at the stone, very juicy, melting, rich and high-flavoured. Stone very rough. Middle of September. Flowers small.

President Church.

Raised by the Rev. A. Church, President of Franklin College, Ga. Glands reniform. Fruit large, roundish, inclining to oval; suture shallow, often a mere line, with a small point at the apex, which is rarely depressed. Skin pale red in the shade, beautifully mottled and washed with dark red in the sun. Flesh white, pale red at the stone, very juicy, melting, and of delicious

flavour; an acquisition. Middle of September. (Ga. Pom. S. Rep.)

Prince's Paragon.

Tree very vigorous and very productive. Fruit large, oval. Skin yellowish-green, shaded with red. Flesh juicy, luscious, and fine flavour. Separates from the stone. Ripens about the middle of September. (Wm. R. Prince, MS.)

Red Rareripe.

Large Red Rareripe, *of some.*
Early Red Rareripe.

This remarkably fine early peach is a very popular one with us, and has been cultivated for many years in this State. It strongly resembles the Royal George, and we believe it an American seedling from that variety, which is, however, distinct, and superior in flavour.

It must be observed, that this is totally different both from the *Early York* and *Morris's Red Rareripe*, with which it is often confounded by some nurserymen. The fruit is larger, broader, and a week later than the first; and its serrated leaves, and different flavour, separate it widely from the latter. Ends of the branches sometimes slightly mildewed.

Leaves serrated, without glands. Fruit rather large, globular, but broad, depressed, and marked with a deep, broad suture, extending nearly round the whole fruit. Skin white, mottled, and marked with numerous red dots, and the cheek of a rich dark red. Flesh whitish, but red at the stone, melting, juicy, very rich and high-flavoured. Middle and last of August. Flowers small.

Rareripe, Late Red.

Prince's Red Rareripe.

This noble American fruit, the Late Red Rareripe, is unquestionably one of the very finest of all peaches, even surpassing often the Late Admirable. Its large size and great excellence, its late maturity, and its productiveness and vigour, all unite to recommend it to universal favour. The rather *greyish* appearance of the fruit serves to distinguish it, at first sight, from all others.

Leaves with globose glands. Fruit large and heavy, roundish-oval, suture depressed only at the top, where the swollen point is distinctly sunken. Skin downy, pale greyish-yellow, thickly marbled and covered with reddish spots; the cheek dull, deep-red, distinctly mottled with fawn-coloured specks. Flesh white, but deep-red at the stone; very juicy, melting, and of an unusually rich, luscious, high flavour, not surpassed by any other peach. First to the 10th of September. Flowers small.

Rosebank.

Raised by James Dougall, Windsor, Canada West. Tree healthy, moderate bearer. Fruit large, round; suture deep. Skin greenish-white, with a beautiful dark-red mottled cheek. Flesh whitish, juicy, melting, rich, and excellent. Separates from the stone. Last of August.

Royal Charlotte. Thomp.

New Royal Charlotte, *Lind.* Grimwood's Royal Charlotte, New Early Purple, Lord Nelson's, Lord Fauconberg's Mignonne,	*of the English.*	Madeleine Rouge Tardive, Madeleine Rouge à Moyenne Fleur, Madeleine à Petite Fleur,	*of the French.*

A very excellent peach, and a favourite variety with all European gardeners. Its leaves are more coarsely and deeply serrated than those of other varieties.

Leaves serrated, without glands. Fruit rather large, inclining to ovate, being rather broader at the base than at the top; the suture of moderate size. Skin pale greenish-white, with a deep-red marbled cheek. Flesh white, but pale red at the stone; melting, juicy, rich, and excellent. Beginning of September. Flowers small.

Royal George. P. Mag. Lind. Thomp.

Early Royal George. Millet's Mignonne. Lockyer's Mignonne. Griffin's Mignonne. Superb.	Red Magdalen. Madeleine Rouge à Petite Fleur, French Chancellor, Early Bourdine, Double Swalsh,	*incorrectly of some.*

Few of the early peaches surpass in flavour and beauty the Royal George. It is one of the finest European varieties, and attains the highest flavour with us. The points of its shoots are a little inclined to mildew, which is entirely, in our climate, prevented by the shortening-in pruning. It is a regular and moderate bearer.

Leaves serrated, without glands. Fruit above the middle size, or rather large, globular, broad, and depressed, the suture deep and broad at the top, and extending round two-thirds of the fruit. Skin pale, or white, thickly sprinkled with red dots, and the cheek of a broad, rich, deep red, slightly marbled. Flesh whitish, but very red at the stone, melting, juicy, very rich, and of the highest flavour. From the 20th to the last of August. Flowers small.

Scott's Early Red.

Scott's Early Red is a new variety, of very excellent flavour, and a prolific bearer, which we have lately received from New Jersey.

Leaves with obscure globose glands. Fruit of medium size, roundish, a little depressed, the suture distinctly marked, but not deep. Skin pale greenish-white, but much covered with red, which is mottled with fawn-coloured dots. Flesh whitish, very juicy, with a rich and luscious flavour. Middle of August. Flowers small.

Scott's Magnate.

A noble variety of the Red Rareripe. Glands reniform. Fruit very large, round, depressed. Skin pale yellow, with a dark-red cheek. Flesh white, luscious, and well-flavoured. Ripens early in September. (Prince's MS.)

Scott's Nectar.

Another very fine seedling from the Red Rareripe. Glands globose. Fruit large, round, somewhat depressed. Colour red, shaded on pale yellow ground, and bright red next the sun. Flesh white, very sweet, and of the highest flavour. Ripens early in September. (Prince's MS.)

Snow.

The Snow peach is a remarkably fair and beautiful fruit, of American origin, which has but lately made its appearance in our gardens. The fruit and blossoms are white, and the foliage and wood of a light green. It is a very hardy, productive, and desirable variety.

Leaves with reniform glands. Fruit large, globular; suture faintly marked, except at the top. Skin thin, clear, beautiful, white on all sides. Flesh white to the stone, juicy, and melting, with a sweet, rich, and sprightly flavour. Beginning of September. Flowers small.

Strawberry.

Rose.

The strawberry peach we received from Mr. Thomas Hancock, of Burlington, proprietor of one of the most respectable and extensive nurseries in New Jersey. It is esteemed one of the very finest early varieties for orchard culture in that State. It is quite distinct from the Early York.

Leaves with reniform glands. Fruit of medium size, oval, the cavity at the stem deeply sunk, the suture extending half round. Skin marbled with deep red over almost the whole surface. Flesh whitish, melting, juicy, rich, and of very delicious flavour. Middle of August. Flowers small.

Stetson's Seedling.

Raised by N. Stetson, Bridgewater, Mass. Globose glands.

Flowers small. Fruit large, roundish; suture indistinct. Skin greenish-white, marbled, and shaded with crimson in the sun. Flesh white, pink at the stone, very melting, juicy, brisk, rich, and luscious. Freestone. Ripens from middle to last of September. (Hov. Mag.)

Stump the World.

Fruit very large, roundish, a little oblong. Skin creamy-white, with a bright-red cheek; suture shallow, rather more than half round. Flesh white, juicy, and high-flavoured; very productive. A fine market variety.

Van Zandt's Superb.

Originated in the garden of R. B. Van Zandt, Long Island. Fruit medium size, oval. Skin nearly smooth, white, delicately marbled with red, giving it a waxen hue; the beauty and smoothness of the skin approximate in appearance to that of a nectarine. Flesh melting and delicious; separates from the stone. Ripens in August. Very productive. (Wm. R. Prince, MS.) This is the true variety, and distinct from the one formerly described in this work.

Walter's Early.

Walter's Early is esteemed as one of the most popular early varieties for orchards in New Jersey, where it originated. It is remarkably well adapted to the light sandy soil of that State, bearing abundant crops of excellent fruit.

Leaves with globose glands. Fruit large, roundish. Skin white, with a rich red cheek. Flesh whitish, a little touched with red at the stone, melting, juicy, sweet, and of very agreeable flavour. Ripens about the 20th of August.

Walburton Admirable.

An English variety, which is found very good here.

Flowers small. Fruit large, roundish; suture medium. Skin greenish-white, finely shaded with dark-red in the sun. Flesh white, a little stained at the stone; juicy, melting, with a rich, sweet flavour. Middle and last of September.

Ward's Late Free.

A fine late American variety; vigorous and productive; valuable for market. Glands reniform. Flowers small. Fruit rather large, roundish, inclining to oval. Skin white, with a beautiful crimson cheek. Flesh white, slightly tinged with red at the stone, juicy, melting, rich, and excellent. Freestone. First of October. Weld's Freestone may prove the same.

Washington. Floy.

Washington Red Freestone. Ken.

The Washington is a handsome and very delicious peach, of American origin. It was named and first introduced to notice by Mr. Michael Floy, nurseryman, New York, about forty years ago. The fruit ripens late; the tree is vigorous, hardy, and productive, and it is altogether a valuable variety.

Leaves with globose glands. Fruit large, broad, depressed, with a broad, deep suture extending nearly round it. Skin very thin, yellowish-white, with a deep crimson cheek. Flesh pale yellowish-white, very tender, juicy, and melting, with a sweet, rich, and luscious flavour. It often adheres slightly to the stone, which is quite small. Middle of September. Flowers small.

White Imperial.

The White Imperial is a new fruit, of most estimable quality. We consider it quite a valuable variety for every garden north of New York, as its flavour is very excellent. It is hardy and vigorous, and bears good and regular crops.

This fine peach originated (it is believed, from the Noblesse) in the garden of David Thomas, of Cayuga county, N. Y., so long known for his skill and science as an amateur horticulturist. It was first made known to us by his son, J. J. Thomas, of Macedon, N. Y. Leaves with globose glands. Fruit rather large, broad, depressed, hollowed at the summit, with a wide, deep cavity at the stem; the suture moderately deep, and the fruit enlarged on one of its sides. Skin yellowish-white, with only a slight tinge of red next the sun. Flesh nearly white, very melting and juicy, of a very delicate texture, and the flavour sweet and delicious. Ripens among the earliest, a few days after the Early York, about the 25th of August. Flowers small.

White-Blossomed Incomparable. P. Man. Thomp.

White Blossom. Willow Peach.

This is a native fruit, of second quality, much inferior, both in flavour and appearance, to the Snow peach. Its seeds very frequently produce the same variety. The flowers are white, the leaves are of a light green, and the wood pale yellow. Leaves with reniform glands. Fruit large, oval. Skin fair, white throughout. Flesh white to the stone, melting, juicy, sweet, and pleasant. Beginning of September. Flowers large, white.

CLASS II.

*Freestone Peaches with Deep Yellow Flesh.**

Abricotée. Thomp. O. Duh.

Yellow Admirable. Admirable Jaune. *O. Duh. Nois.*
Apricot Peach. D'Abricot.
Grosse Jaune Tardive. D'Orange. (Orange Peach. *Ken.*)

The Apricot Peach (or *Yellow Admirable*, as it is more frequently called) is an old French variety, but little cultivated in this country, though deserving of attention in the Middle States. It ripens very late, and is thought to have a slight apricot flavour. It grows with moderate vigour, and bears abundantly.

Leaves with reniform glands. Fruit large, roundish-oval, with a small suture running on one side only. Skin clear yellow all over, or faintly touched with red next the sun. Flesh yellow, but a little red at the stone, firm, rather dry, with a sweet and agreeable flavour. Stone small. Ripens at the beginning of October. Flowers large.

Bergen's Yellow.

Bergen's Yellow is a native, we believe, of Long Island. It is very large, and of very delicious flavour. It is darker coloured, more depressed in form, rather finer flavoured, and ripens some days later than the Yellow Rareripe, which it much resembles. It is a moderate, but good bearer. It is earlier, and much superior to the Melocoton, and its glands distinguish it, also, from that variety.

Leaves with reniform glands. Fruit large (often measuring nine inches in circumference), globular, depressed, and broad; the suture well marked, and extending more than half round. Skin deep orange, dotted with some red, and with a very broad, dark-red cheek. Flesh deep yellow, melting, juicy, and of rich and luscious flavour. Ripens at the beginning of September. Flowers small.

Columbia. Coxe.

Pace.

The Columbia is a singular and peculiar peach. It was raised by Mr. Coxe, the author of the first American work on

* Nearly all this class are of American origin, and the Yellow Alberge of Europe is the original type. They are not so rich as Class I., and require our hot summers to bring out their flavour. In a cold climate, the acid is always prevalent. Hence they are inferior in England, and at the northern limits of the peach in this country

fruit trees, from a seed brought from Georgia. It is a very excellent fruit, which every amateur will desire to have in his garden. The tree is not a very rapid grower, and bears only moderate crops, being, of course, all the less subject to speedy decay. The young wood is purple.

Leaves with reniform glands. Fruit large, globular, broad and much depressed, the suture distinct, extending half way round. Skin rough and rather thick, dull dingy red, sprinkled with spots and streaks of darker red. Flesh bright yellow, of the texture, as Coxe remarks, of a very ripe pineapple, rich, juicy, and of very excellent flavour. Ripens from the beginning to the middle of September.

Crawford's Early Melocoton.

Early Crawford. *Ken.* Crawford's Early.

This is the most splendid and excellent of all early yellow-fleshed peaches, and is scarcely surpassed by any other variety in size and beauty of appearance. As a market fruit, it is perhaps the most popular of the day, and it is deserving of the high favour in which it is held by all growers of the peach. It was originated, a few years ago, by William Crawford, Esq., of Middletown, New Jersey. The tree is vigorous, very fruitful, and hardy.

Leaves with globose glands. Fruit very large, oblong, the swollen point at the top prominent; the suture shallow. Skin yellow, with a fine red cheek. Flesh yellow, melting, sweet, rich, and very excellent. It ripens here the last week in August. Flowers small.

Crawford's Late Melocoton.

Crawford's Superb Malacatune.

Crawford's Late Melocoton, from the same source as the foregoing, is one of the most magnificent American peaches. We think it unsurpassed by any other yellow-fleshed variety, and deserving of universal cultivation in this country. As a splendid and productive market fruit, it is unrivalled, and its size, beauty and excellence, will give it a place in every garden.

Leaves with globose glands. Fruit very large, roundish, with a shallow but distinct suture. Skin yellow, with a fine dark-red cheek. Flesh deep yellow, but red at the stone, juicy and melting, with a very rich and excellent vinous flavour. Ripens from the 20th to the last of September. Flowers small.

Eliza Peach.

Origin, Philadelphia. Leaves large, with reniform glands.

Fruit medium, round, terminating in a nipple. Skin yellow, with a mottled red cheek. Flesh yellow, red at the stone, which is free. Last of September. (W. D. Brinckle in Pom.)

Hatch.

Originated with S. O. Hatch, Franklin, Conn.; hardy and valuable at the North. Glands globose. Fruit roundish, pointed; suture shallow. Skin deep yellow; blush in the sun. Flesh yellow, melting, sweet and excellent. Freestone. First of September. (Cole.)

Jacques' Rareripe.

Jacques' Yellow Rareripe.

Origin, Mass. A large yellow peach, of medium quality and productive. Glands reniform. Flowers small. Fruit large, roundish, compressed; suture shallow. Skin dark yellow, mostly shaded with dull red. Flesh yellow, red at the stone, juicy, slightly subacid. Freestone. Middle of September.

Lincoln.

Origin, Lincoln, Mass.; very hardy and productive. Glands globose. Fruit large, roundish; suture large. Skin rich yellow, mostly covered with dark purplish red, much downy. Flesh yellow, with a tinge of red at the stone, juicy, of a very rich, sweet and excellent flavour. Freestone. From first to last of September. (Cole.)

Merriam.

Glands globose. Fruit very large, short, oval. Skin light yellow, bright red cheek. Flesh yellow, red at the stone, melting, very juicy, of a sweet luscious flavour. First of October. (Cole.)

Mrs. Poinsette.

Origin, South Carolina. Tree vigorous and productive. Globose glands. Fruit large, globular, with a regular suture. Skin yellowish, inclining on the exposed side to a brownish tint, veined with red. Flesh of rich yellow, juicy, melting, and of first quality; partially adherent. Ripens from 1st to 12th of August in South Carolina. (William Summer.)

Owen.

Owen's Lemon Rareripe.

Origin, garden of J. Owen, Cambridge, Mass. Glands globose. Fruit large, roundish; suture large. Skin rich yellow, mostly

covered with dark red or purplish red in the sun. Flesh yellow, red at the stone, tender, very juicy, of a delicious saccharine, and slightly subacid flavour. Freestone. Middle to last of September. (Cole.)

Prince's Excelsior.

Originated with William R. Prince, Flushing, Long Island. Fruit very large, round; suture slight, a mere line, ending in a flattened depression at top, where there is a slight cavity, and a little abortive mamelon. Skin a most splendid pure bright orange colour. Flesh golden yellow to the stone, very rich, luscious, aromatic, apricot, or exquisite orange flavour, sweet and rich; separates freely from the stone. Ripens middle of October: well suited to the South. (W. R. Prince's MS.)

Poole's Large Yellow. Ken.

Poole's Late Yellow Freestone.

A very large peach, of the Melocoton family. It lately originated near Philadelphia, and bears fine crops.

Leaves with reniform glands. Fruit large, roundish, with a suture extending from the base to the top. Skin deep yellow, with a dark-red cheek. Flesh yellow, but red at the stone, rich, juicy, and of excellent flavour. Ripens last of September.

Red Cheek Melocoton.* Pom. Man.

Malagatune.	Yellow Malocoton.	
Malacatune.	Yellow Malagatune.	
Hogg's Melocoton.	Red Cheek Malocoton.	*Coxe.*

The Melocoton (or Malagatune, as it is commonly called) is almost too well known to need description. Almost every orchard and garden in the country contains it, and hundreds of thousands of bushels of the fruit are raised and sent to market in this country, every year. It is a beautiful and fine fruit in favourable seasons, though in unfavourable ones the acid frequently predominates somewhat in its flavour. It is an American seedling, and is constantly reproducing itself under new forms, most of the varieties in this section having, directly or indirectly, been raised from it; the finest and most popular at the present time, being Crawford's Early and Late Melocotons, both greatly superior, in every respect, to the original Melocoton.

Leaves with globose glands. Fruit large, roundish oval, with a swollen point at the top. Skin yellow, with a deep-red cheek.

* *Melocoton* is the Spanish for Peach.

Flesh deep yellow, red at the stone, juicy, melting, with a good, rich, vinous flavour. First of September. Flowers small.

Reeves' Favourite.

Raised by Samuel Reeves, Salem, New Jersey; a hardy and productive kind. Glands globose. Flowers small. Fruit large, roundish, inclining to oval, with a swollen point. Skin yellow, with a fine red cheek. Flesh deep yellow, red at the stone, juicy, melting, with a good, vinous flavour. Freestone. Middle of September.

Scott's Nonpareil.

Origin, Burlington, New Jersey. Resembles Crawford's Late, but sweeter. Glands globose. Fruit large, roundish, slightly oblong; suture medium. Skin deep yellow, with a fine dark-red cheek. Flesh yellow, red at the stone, juicy, sweet, with a rich and excellent vinous flavour. Freestone. Last of September.

Smith's Favourite.

Tree vigorous, hardy, and productive: grown by Calvin Smith, Lincoln, Mass. Glands reniform. Fruit large, roundish; suture deep. Skin yellow, mostly covered with deep, rich red. Flesh yellow, juicy, sweet, rich, and delicious flavour. One of the best for general culture and market. Freestone. Middle to last of September. (Cole.)

Smock Freestone. Ken.

St. George.

It was originated not long since by Mr. Smock, of Middleton, New Jersey, the centre of extensive peach cultivation.

Leaves with reniform glands. Fruit large, oval, narrowed towards the stalk, and rather compressed on the sides. Skin light orange yellow, mottled with red, or often with a dark-red cheek, when fully exposed. Flesh bright yellow, but red at the stone; moderately juicy and rich. Ripens last of September and first of October.

Susquehanna.

Griffith.

Originated with Mr. Griffith, on the banks of the Susquehanna. A very large, handsome fruit, and is a special favourite in that section. Fruit very large, nearly globular. Skin rich yellow, with a beautiful red cheek, nearly covering the whole surface. Flesh yellow, sweet, juicy, with a rich, vinous flavour. Ripens from the first to the middle of September. It is said to be the best of all the yellow-fleshed peaches.

Titus.

Originated with Mrs. Sarah Titus, Philadelphia. Size large, roundish. Skin fair yellow, with a rich cheek; cavity open. Flesh yellow, red next the stone, juicy, non-adherent. Flavour luscious; quality "best." Maturity, middle to last of September. Freestone. (Interm. Rep.)

Tufts' Rareripe.

Originated with Bernard Tufts, Billerica, Mass. Very hardy, vigorous, and productive. Glands globose. Fruit medial, roundish. Skin yellowish, with a bright-red cheek. Flesh yellow, melting, very sweet and luscious. Freestone. Middle to last of September. (Cole.)

Yellow Alberg. Thomp.

Alberge Jaune. *O. Duh.* Purple Alberge. *Lind.*
Pêche Jaune. Red Alberge.
Gold Fleshed. Golden Mignonne.
Yellow Rareripe, *of many American gardens.*

The Yellow Alberge is an old French variety, and one of the earliest of the yellow-fleshed peaches. It is no doubt the original sort from which our Melocotons and Yellow Rareripes have sprung in this country. It has only a second-rate flavour, except in rich, warm soils, and is not comparable to the Yellow Rareripe in size or quality.

Leaves with globose glands. Fruit of medium size, roundish, with a well-marked furrow running half round. Skin yellow, with a deep purplish-red cheek. Flesh yellow, but deep red at the stone; soft, juicy, sweet, with a pleasant vinous flavour. Middle of August. Flowers small.

The Rosanna (Lind. Thomp.), *Alberge Jaune*, of many French gardens, and Yellow Berge of some gardens here, differs from the above only in having reniform glands, and ripening ten or twelve days later. Flavour second rate.

Yellow Rareripe.

Large Yellow Rareripe. Marie Antoinette.

One of the finest very early yellow-fleshed peaches. It is an American seedling, produced about a dozen years ago, and well deserves the extensive cultivation it receives, both in the orchard and garden.

Leaves with globose glands. Fruit large, roundish, the suture slightly depressed, extending more than half round; the swollen point at the top small.

Skin deep orange yellow, somewhat dotted with red, the cheek rich red, shaded off in streaks. Flesh deep yellow, but red at the stone, juicy, melting, with a rich and excellent vinous flavour. Ripens from the 25th to the 30th of August. Stone small. Flowers small.

CLASS III.

Clingstone Peaches (or Pavies).

Blood Clingstone. Floy.

Claret Clingstone. Blood Cling.

The Blood Clingstone is a very large and peculiar fruit, of no value for eating, but esteemed by many for pickling and preserving; the flesh very red, like that of a beet. This is an American seedling, raised many years ago from the French Blood Clingstone—Sanguinole à Chair Adhérente. It is a much larger fruit than the original sort, which has large flowers, otherwise they are the same in all respects.

Leaves with reniform glands. Fruit often very large, roundish, oval, with a distinct suture. Skin very downy, of a dark, dull, clouded, purplish red. Flesh deep red throughout, firm and juicy—not fit for eating. September to October. Flowers small.

There is a French Blood Freestone (*Sanguinole, Sanguine, Cardinale, or Betrave*, Duh. Thomp.) of the same nature, and used for the same purpose as this, but smaller in size, and not equal to it for cooking. Leaves without glands.

Blanton Cling.

Leaves large. Glands reniform. Fruit large, and shaped like Lemon Cling, with the same projecting, swollen point. Skin rich orange, with a slightly reddened cheek. Flesh orange yellow, firm, but full of a delicious, vinous juice. Later and better than Lemon Cling. Reproduces itself from seed. Ripens 10th August. (White's Gard.)

Bordeaux Cling.

Raised from a stone brought from Bordeaux. Fruit large, oblong, or oval; a little one-sided; suture shallow. Skin very downy, lemon yellow, with a red cheek. Flesh yellow, red at the stone (to which it clings), juicy, melting, and of an excellent vinous flavour: one of the best of its season. First of August (Wm. N. White, MS.)

Catherine. Lang. Lind. P. Mag. Thorp.

The Catherine Cling is a very fine old English variety, of excellent quality, but not, we think, equal to the *Large White Clingstone*, a native seedling, so much esteemed in the Middle States.

Leaves with reniform glands. Fruit large, roundish oval, more swollen on one side than the other, and terminated by a small swollen point at the top. Skin pale yellowish-green, much sprinkled with red dots; the exposed cheek of a bright, lively red, streaked with darker red. Flesh firm, yellowish-white, but dark-red at the stone, to which it adheres very closely; juicy, rich, and excellent. Middle and last of September. Flowers small.

Chinese Cling.

Reniform glands. Flowers small. Fruit large, globular; sides compressed; suture quite shallow. Skin creamy-white, shaded and marbled with fine red. Flesh white, red at the stone (which is adherent), very juicy, melting, with a rich, excellent vinous flavour. Ripens first to middle of September. At the south, from the middle of July to first of August.

Tree vigorous and productive. Imported from China.

Donahoo Cling.

From Mr. Donahoo, Clark county, Ga. Glands reniform. Fruit very large, roundish; suture quite deep on one side, and visible entirely around the fruit; apex depressed. Skin creamy-white, beautifully dotted and tinged with red in the sun. Flesh white to the stone, exceedingly juicy, excelling the Heath Cling in tenderness of texture, and equally rich and luscious, and a most desirable variety. Ripens from 10th to 20th September. (Ga. Pom. S. Rep.)

Elmira Cling.

Originated with Dr. M. W. Phillips, Miss. Glands reniform. Flowers small. Fruit large, oval, depressed; suture rather shallow on one side. Skin white, with a greenish-yellow tinge, quite downy. Flesh white, tinged with red at the stone, to which it adheres; sweet and good. Early in August. (Wm. N. White, MS.)

Flewellen Cling.

Fruit large, globular, depressed at the apex. Skin downy, yellowish-white, mostly overspread with shades of red; dark, dull purplish-red in the sun, the lighter tints of red somewhat

in stripes. Flesh yellowish-white, red at the stone, to which it firmly adheres, very juicy, sweet, and high flavoured; a desirable early cling. First of August. (Wm. N. White, MS.)

Horton's Delicious.

Fruit large, roundish, inclining to oval, depressed at apex, point very small, and within the depression; suture shallow. Skin moderately downy, of a rich, creamy white, with a faint blush in the sun. Flesh white to the stone, with the exact flavour of a Heath Cling; quality "best." From first to middle of October. (Ga. Pom. S. Rept.)

Hyslop.

Hyslop's Clingstone.

Origin unknown; an American variety, hardy and productive. Glands reniform. Flowers small. Fruit large, roundish, inclining to oval. Skin white, with a crimson cheek. Flesh very juicy, melting, with a rich, vinous flavour; adheres to the stone. First of October.

Heath. Coxe.

Heath Clingstone. Fine Heath.
Red Heath.

The most superb and most delicious of all late Clingstones. It seldom ripens in New England, but here, and to the southward, it is one of the most valuable kinds, of very large size, and the very finest flavour.

Coxe informs us that this is a seedling produced in Maryland from a stone brought by Mr. Daniel Heath from the Mediterranean; and it is frequently still propagated from the stone, without variation, in that State. The tree is vigorous, long lived, and moderately productive; with the *shortening-in* mode of pruning, the fruit is always large and fine, otherwise often poor. This tree is well deserving of a place on the espalier rail or wall, at the north.

Leaves nearly smooth on the edges, with reniform glands Fruit very large, oblong, narrowing to both ends, and terminating at the top with a large swollen point; the suture distinct on one side. Skin downy, cream-coloured white, with a faint blush or tinge of red in the sun, or a brownish cheek. Flesh greenish-white, very tender and melting, exceedingly juicy, with the richest, highest, and most luscious flavour, surpassed by no other variety. It adheres very closely to the stone. It ripens in October, and frequently keeps for a month after being gathered. Flowers small.

Bayne's New Heath is a recent seedling, very similar in all

respects, originated by Dr. Bayne, of Alexandria, D. C. It is considered rather finer by some.

Hull's Athenian.

From Henry Hull, Jr., Athens, Ga. Fruit very large, oblong, depressed at apex; suture a mere line. Skin very downy, yellowish-white, marbled with dull red in the sun. Flesh white, pale red at the stone, rather firm and rich, with a high, vinous flavour; a great acquisition. October. (Ga. Pom. S. Rept.)

Incomparable. Lind. Thomp.

Pavie Admirable. *Bon. Jard. Ken.* Late Admirable Cling.

Larger than the Catherine, which it resembles. It is inferior to it and several others in flavour, and is only worthy of cultivation for market.

Leaves with reniform glands. Fruit large, roundish, one side enlarged. Skin pale yellowish-white, light red on the exposed side. Flesh yellowish-white, red at the stone, juicy, melting, and of agreeable flavour. Last of September. Flowers small.

Jackson Cling.

Raised by Mrs. L. A. Franklin, Athens, Ga. Fruit large, oblong, with a very large, swollen point. Skin rich dark yellow, covered with dark red in the sun. Flesh rather firm, orange-yellow, and dark red at the stone; juicy, sprightly, rich, and delicious; quality "best." Last of August. (Ga. Pom. S. Rep.)

Large White Clingstone.

New York White Clingstone. *Floy.* Williamson's New York.
Selby's Cling.

The Large White Clingstone is by far the most popular of this class of peaches in this State, and in New England. We think it superior to the Catherine and Old Newington, and only surpassed in flavour by the Oldmixon Cling and the Heath Cling.

This variety was raised about forty years ago by David Williamson, a nurseryman, in New York, and was first described by Floy as the *New York Clingstone.* But as it is universally known now by the present title, we have placed the original names as synonymes. The light colour and excellent quality of this fruit render it the greatest favourite for preserving in brandy or sugar. The tree is remarkably hardy and long lived; rarely if ever being attacked by the yellows. It bears regular and good crops.

Leaves with globose glands. Fruit large, round; the suture slight, and the swollen point at the top small. Skin white (inclining to yellow only when over-ripe), dotted with red on the sunny side, or with a light-red cheek when fully exposed. Flesh

whitish, tender, very melting, full of juice, which is very sweet, luscious, and high flavoured. Beginning and middle of September. Flowers small.

Late Yellow Alberge. Pom. Man.

October Yellow. Algiers Yellow.
Algiers Winter.

A very late Clingstone peach, entirely yellow, scarcely good for eating, but esteemed by some for preserving. It was originally introduced from the south of France, and has been considerably cultivated here, but we have abandoned it. The Heath Cling is in every way greatly its superior.

Leaves with reniform glands. Fruit of medium size, roundish-oval, with a small, distinct suture. Skin downy, green till the last of September, but at maturity being yellow. Flesh yellow to the stone, very firm, rather juicy, sweet. October. Flowers large.

Lemon Clingstone. Floy. Thomp.

Kennedy's Carolina. *Pom. Man.*
Kennedy's Lemon Clingstone.
Largest Lemon.
Long Yellow Pineapple. *Coxe.*
Pineapple Clingstone.
Yellow Pineapple.

The Lemon Clingstone is one of the largest and most beautiful of all the yellow-fleshed clings; and though of course inferior in flavour to the white-fleshed, is deserving of its universal popularity. It is originally a native of South Carolina, and was brought from thence by a Mr. Kennedy, of New York, before the war of the Revolution. There are now many seedlings reproduced from it, but none superior to the original. This is a very productive, hardy tree.

Leaves long, with reniform glands. Fruit large, oblong, narrowed at the top, and having a large, projecting, swollen point, much like that of a lemon. Skin fine yellow, with a dark brownish-red cheek. Flesh firm, yellow, slightly red at the stone, adhering firmly, with a rich, sprightly, vinous, sub-acid flavour. Middle and last of September. Flowers small.

Old Newington. Lang. Lind. Thomp.

Newington. *Parkinson.* (1629.)
Large Newington. *Coxe.*

A celebrated English Clingstone, which has been in cultivation more than 200 years, and still is perhaps the best in the English climate. Although excellent, it is not so generally esteemed here as the Large White Cling and Oldmixon Clingstone.

Leaves serrated, without glands. Fruit large, roundish, the suture slight. Skin pale yellowish-white, with a fine red cheek, marked with streaks of darker red. Flesh pale yellowish-

white, deep red at the stone, to which it always adheres very firmly; melting, juicy, and rich. Ripens about the 15th of September. Flowers large.

Oldmixon Clingstone. Coxe.

Oldmixon Cling.

The Oldmixon Clingstone is certainly one of the highest flavoured of all peaches known in this country, where it is raised in perfection, and should have a place in every good garden; indeed we consider this, the Large White Cling, and the Heath Cling, as being the sorts among the most desirable of this class of peaches for small collections.

Leaves with globose glands. Fruit large, roundish-oval, the suture distinct only at the top, on one side of which the fruit is slightly enlarged. Skin yellowish-white, dotted with red, or with a red cheek, varying from pale to lively red. Flesh pale white, very melting and juicy, with an exceedingly rich, luscious, high flavour. First of September. Flowers small.

Orange Clingstone.

The Orange Cling is a very large, handsome, and excellent fruit, somewhat resembling the Lemon Cling in colour, but globular in form, rather richer in flavour, and quite a distinct sort.

Leaves large, serrated, without glands. Fruit large, round, the suture distinctly marked, and extending nearly round the fruit; swollen point at the top, none. Skin deep orange, with a rich dark-red cheek. Flesh dark yellow, rather firm, juicy, with rich, vinous flavour. September. Flowers small.

Pavie de Pompone. Bon. Jard. Lelieur. Thomp.

Monstrous Pomponne. } *Lind.*
Monstrous Pavie. }
Pavie de Pomponne Grosse.
Pavie Monstrueux.
Pavie Rouge de Pomponne. *O. Duh.*
Pavie Camu.
Gros Mélocoton.
Gros Persique Rouge.

A very large and magnificent old French Clingstone, not so well known in this country as it deserves. The fruit is very solid in flesh, and much sweeter here than in France. The tree is of very strong growth.

Leaves with reniform glands. Fruit very large, roundish oval, with a well-marked suture extending to the top, and terminating there in an obtuse swollen point. Skin yellowish-white, a good deal covered with the broad, very deep red colour of its cheek. Flesh firm, yellowish-white, deep red at the stone, to which it adheres very firmly, and which is rather small; juicy, flavour sweet and good. First of October. Flowers large.

Prince's Climax.

Originated on the farm of George Mitchell, Flushing, Long Island; very productive. Fruit large, oval. Skin yellow, with a crimson cheek, and two-thirds mottled with crimson. Flesh yellow, very rich, aromatic, pineapple flavour; adheres to the stone. Ripens the middle and end of September. (William R. Prince's MS.)

Shanghae.

Trees of this variety and Chinese Cling were sent to this country by the late Mr. Winchester, while British Consul at Shanghae. Tree vigorous. Glands reniform. Flowers large. Fruit large, oval, truncate; suture distinct, extending from the base to beyond the apex, deepening very much at the apex, so as to form quite a cavity. Skin greenish-yellow, quite downy, sometimes a little mottled, or shaded with pale red. Flesh greenish-yellow, very melting, juicy, adhering to the stone, with a high, vinous flavour. Ripens from first to middle of September. At the south, last of July and first of August.

Smith's Newington. Lind. Thomp.

Early Newington, } *of the*
Smith's Early Newington, } *English.*
Early Newington. *Coxe.*

This is one of the best early Clingstone peaches. It is of English origin, and is little cultivated in this country. The Early Newington of our gardens as generally known (see Early Newington Freestone), is earlier and a very much finer variety, with *reniform* glands, being a partial Clingstone, but most frequently parting from the flesh, has quite supplanted it.

Leaves serrated, without glands. Fruit middle-sized, rather oval, narrower at the top, and one half a little enlarged. Skin pale straw-colour, with a lively red cheek streaked with purple. Flesh firm, pale yellow, but light red at the stone, to which it adheres closely; juicy, and of very good quality. Last of August. Flowers large.

What Mr. Thompson calls "*Newington of the Americans*" is a seedling cling with *globose* glands, and of second quality, quite distinct from our Early Newington Freestone.

Stephenson Cling.

From Thomas Stephenson, Clark county, Ga. Fruit large, roundish; suture distinct. Skin very downy, of a creamy tint, shaded with flesh-colour—the tint deepening in the sun to a dark, dull, purplish red where fully exposed. Flesh white, somewhat tinged with red, and deep red at the stone. Flesh very

tender, melting, juicy, and of a delicious vinous flavour; quality "best." September first. (G. Pom. S. Rep.)

Tippecanoe.

Hero of Tippecanoe.

A new, very large, and handsome Clingstone, originated by Mr. George Thomas, of Philadelphia, and first exhibited before the Horticultural Society there in 1840. Its lateness and beauty render it a valuable kind.

Leaves with reniform glands, the shoots dark purplish-red. Fruit very large, nearly round, a little compressed on the sides. Skin yellow, with a fine red cheek. Flesh yellow, juicy, with a good vinous flavour. It ripens from the 20th to the last of September. Flowers small.

Washington Clingstone.

An American variety, remarkably juicy and sweet. Although Thompson finds it third rate in England, it is here scarcely surpassed. To use the expressive words of one of our friends in Maryland, a good judge of fruit, "there is nothing better than this peach out of Paradise." It is neither handsome nor prepossessing externally.

Leaves with reniform glands. Fruit of medium size, roundish. Skin yellowish-green, marked with grey specks, and with a slight tinge of red on the sunny side. Flesh very juicy, tender, and melting, with a very sweet and luscious flavour. Last of September. Flowers small.

Curious or Ornamental Varieties.

Double Blossomed. Thomp.

Double Flowering Peach. Pécher à Fleurs Doubles. *Bon. Jard.*
Rose Flowering. Pécher à Fleurs Semi-Doubles. *O. Duh.*

The Double Blossomed peach is, when in full bloom, one of the gayest and most beautiful of fruit trees, and blooming with its lovely companion, the Double Flowering Cherry, finds a place in all our pleasure-grounds and ornamental plantations. Its flowers are three times the size of those of the common peach, of a lively rose colour, nearly full double, and so thickly disposed on the branches as to be very striking and showy. They are produced at the usual season, or a few days later.

This sort is rendered more dwarf for shrubberies, by budding it upon the Mirabelle, or the Cherry Plum stock.

The leaves have reniform glands. The fruit, which is sparingly produced, is roundish-oval, pale greenish-yellow, faintly tinged with red, freestone, and of indifferent flavour.

Flat Peach of China. Lind. Thomp.

Chinese Peach. Java Peach.
Peen To.

A very singular variety, from China, where the gardeners affect all manner of vegetable curiosities. The fruit is of small size, about two inches in diameter, and so much flattened at the ends that only the skin and the flat stone remains, the fleshy part being crowded on either side. The tree is of rather dwarfish habit, and holds its leaves very late. The fruit is of very good flavour, and is well worthy of a place in the gardens of the curious.*

Leaves with reniform glands. Fruit small, so much flattened as to form a deep hollow at both ends, having at the top a singular broad, rough, five-angled eye. Skin pale yellowish-green, mottled with red on one side. Flesh pale yellow, with a circle of red round the stone (from which it separates), sweet, juicy, with a slight noyeau flavour. Beginning of September. Flowers large.

Weeping Peach.

Reid's Weeping Peach.

A peculiar variety, with pendent, weeping branches, and a habit much like that of the weeping ash. It was lately originated by Mr. William Reid, the skilful nurseryman at Murray Hill, near New York. To display itself to advantage, it should be grafted six or eight feet high, on the clean stem of a peach or plum stock. Reniform glands. Flowers large.

Selection of choice peaches, to furnish in succession. *Freestones*: Early York, Early Newington, Cooledge's Favourite, George 4th, Grosse Mignonne, Crawford's Early, Brevoort, Oldmixon Free, Morris White, Bellegarde, Nivette, Ward's Late Free, Noblesse, Late Red Rareripe, Bergen's Yellow, Druid Hill. *Clingstones:* Large White, Oldmixon and Heath Clings.

Selection of hardy sorts, for a northern latitude: Tuft's Early, Early Chelmsford, White Imperial, Moore's Favourite, Lincoln, Red Cheek Malagatune, Snow, Smith's Favourite, Tuft's Rareripe, Clinton, Kenrick's Heath, Crawford's Early, Oldmixon Cling.

Selection of peaches, furnished by Wm. N. White, Athens, Ga., that have proved best in that State, and ripen in succession from first of July to first of November, and will probably suit most localities at the south :

* This variety has been several times imported to this country and lost on the way. Should any one of our amateurs now possess it, we shall be much gratified to receive buds of it.

Early Anne, Early Tillotson, Early York (serrate), Early Chelmsford, Large Early York, Van Zandt's Superb, Crawford's Early, George the 4th, Stump the World, Crawford's Late, Late Admirable, Druid Hill, La Grange, Montgomery's Late, President Church, Edwards' Late White, Baugh, Lady Parham, Pride of Autumn, Baldwin's Late.

A succession of the best clingstones for Georgia, ripening from the last of July to first of November* (Wm. N. White):

Flewellen Cling, Bordeaux, Large White, Oldmixon, Lemon, Blanton, Jackson, Tippecanoe, Catherine, Raymond, Heath, Donahoo, Stephenson, Horton's Delicious, Hull's Athenian.

CHAPTER XXIII.

THE NECTARINE.

Persica vulgaris (v.) *Lævis.* Dec. *Rosaceæ of Botanists.*

The Nectarine is only a variety of the peach with a smooth skin (*Pêche lisse*, or *Brugnon* of the French). In its growth, habit, and general appearance, it is impossible to distinguish it from the peach tree. The fruit, however, is rather smaller, perfectly smooth, without down, and is one of the most wax-like and exquisite of all productions for the dessert. In flavour it is perhaps scarcely so rich as the finest peach, but it has more piquancy, partaking of the noyeau or peach-leaf flavour.

The Nectarine is known in Northern India, where it is called *moondla aroo* (smooth peach). It appears to be only a distinct, accidental variety of the peach, and this is rendered quite certain since there are several well-known examples on record of both peaches and nectarines having been produced on the same branch†—thus showing a disposition to return to the natural form. Nectarines, however, usually produce nectarines again on sowing the seeds; but they also occasionally produce peaches. The Boston Nectarine originated from a peach stone.

The Nectarine appears a little more shy of bearing in this country than the peach, but this arises almost always from the destruction of the crop of fruit by the *curculio*, the destroyer of all smooth-skinned stone fruit in sandy soils. It is quite hardy here wherever the peach will thrive, though it will not generally bear large and fine fruit, unless the branches are *shortened-in* annually, as we have fully directed for the peach tree.

* Southern people generally prefer clings to freestones.

† See London Gardener's Magazine, vol. 1, p. 471; vol. 14, p. 53.

With this easy system of pruning, good crops are readily obtained wherever the curculio is not very prevalent.

The culture of the Nectarine is, in all respects, precisely similar to that of the peach, and its habits are also completely the same. It is longer lived and hardier, when budded on the plum, but still the nurserymen here usually work it on the peach stock.

CLASS I.

Freestone Nectarines. (Pêches lisses, *Fr.*)

[The same characters are used as in describing peaches, for which the reader is referred to that part.]

Boston. Thomp.

Lewis's
Perkins' Seedling. } *Ken.*

This American seedling is the largest and most beautiful of all nectarines. It was raised from a peach stone by Mr. T. Lewis, of Boston. The fruit, though not of high flavour, is excellent, the tree very hardy and productive, and one of the best for general standard culture. Mr. Perkins' seedling, raised from the original Lewis tree, is quite identical, and we adopt the name of "Boston" Nectarine as the standard one.

Leaves with globose glands. Fruit large and handsome, roundish-oval. Skin bright yellow, with very deep red cheek, shaded off by a slight mottling of red. Flesh yellow to the stone (which is small and pointed), sweet, though not rich, with a pleasant and peculiar flavour. First of September. Flowers small.

Duc du Tellier's. Lind. Thomp.

Duc Tilliers. Duke de Tilley.
Duc de Tello. Du Tilly's.

A very excellent Nectarine, considerably resembling the Elruge, but a much greater bearer.

Leaves with reniform glands. Fruit rather large, roundish-oblong, being slightly narrowed at the top, and broad at the base or stalk. Skin pale green, with a marbled, purplish-red cheek. Flesh greenish-white, pale red at the stone, melting, juicy, sweet, and good. Last of August. Flowers small.

Downton. Thomp.

The Downton is a seedling raised by Mr. Knight. It is, in quality appearance, and season, an intermediate variety be-

tween the Violette Hâtive and the Elruge, ripening a few days earlier than the latter.

Leaves with reniform glands. Fruit large, roundish-oval. Skin pale green, with a deep violet-red cheek. Flesh pale green, slightly red at the stone; melting, rich, and very good. Ripens about the 25th of August. Flowers small.

Elruge. Thomp.

Common Elruge. } *Lind.*
Claremont. }
Oatlands.
Spring Grove.

Anderson's, } *of some*
Temple's, } *English gardens.*

Peterborough, } *incorrectly of many*
American gardens.

The Elruge is everywhere esteemed as one of the very finest Nectarines. It is an English variety which has been a good while cultivated, and, with the Violette Hâtive, is considered indispensable in every collection. In this country, when the young wood is annually *shortened-in*, it bears good crops on standard trees, which ripen finely.

Without this precaution, like almost all other nectarines, the fruit is small, poor, and ripens imperfectly.

Leaves with reniform glands. Fruit of medium size, roundish oval, the suture slight, except at the top, where it is distinctly marked. Skin with a pale-green ground, but when fully exposed, it is nearly covered with deep violet, or blood-red, dotted with minute brownish specks. Flesh pale green to the stone, or slightly stained there with pale red; melting, very juicy, with a rich, high flavour. Stone oval, rough, of a *pale* colour. Last of August and beginning of September. Flowers small.

Fairchild's. Lind. Thomp.

Fairchild's Early.

A very small, indifferent sort, only valued for its earliness, and scarcely worth cultivating when compared with the following.

Leaves with reniform glands. Fruit small, about an inch and a fourth in diameter, round, slightly flattened at the top. Skin yellowish-green, with a bright red cheek. Flesh yellow to the stone, rather dry, with a sweet, but rather indifferent flavour. Beginning of August. Flowers small.

Hunt's Tawny. Thomp.

Hunt's Large Tawny, } *Lind.*
Hunt's Early Tawny, }

This is the best very early Nectarine. It is a very distinct sort, with serrated leaves, and was originated in England about thirty years ago. It is worthy of general cultivation, as it is not only early, but hardy, and an abundant bearer.

Leaves serrated, without glands. Fruit nearly of medium size, roundish-ovate, being considerably narrowed at the top, where there is a prominent swollen point; and the fruit is slightly enlarged on one side of the suture. Skin pale orange, with a dark-red cheek, mottled with numerous russety specks. Flesh deep orange, juicy, melting, rich, and very good. It ripens from the 5th to the 15th of August. Flowers small.

(The accidental variation of this sort, described as *Hunt's Large Tawny*, does not seem to have been permanently different from this.)

Hardwicke Seedling. Thomp.

Hardwicke's Seedling.

Was raised at Hardwicke House, in Suffolk, England, and has the reputation of being "one of the best and hardiest of nectarines, and a very excellent bearer."

Leaves with globose glands. Fruit very large, roundish, inclining to oval, and resembling the Elruge. Skin pale green, with a deep violet red cheek. Flesh pale green, slightly marked with red at the stone, juicy, melting, rich, and high flavoured. End of August.

Murrey. Ray. Thomp.

Murry. *Lind.* Black Murry.

The Murrey is an old English Nectarine, which, though of good quality, is rather a poor bearer, and is little known or cultivated in this country.

Leaves with reniform glands. Fruit of medium size, roundish-ovate, slightly swollen on one side of the suture. Skin pale green, with a dark-red cheek. Flesh greenish-white, melting, sweet, and of good flavour. Stone almost smooth. Ripens about the 20th of August. Flowers small.

New White. Thomp.

Neat's White. *Lind.* Flanders.
Cowdray White. Emerton's New White.
Large White.

The New White is the finest light-skinned variety, and is a beautiful, hardy, and excellent nectarine, bearing abundant crops. It is an English seedling, raised by the Rev. Mr. Neate, near London.

Leaves with reniform glands. Fruit rather large, nearly round, skin white, with occasionally a slight tinge of red when exposed. Flesh, white, tender, very juicy, with a rich, vinous flavour. The stone is small. Ripens early in September. Flowers large.

Old White. Lind. Thomp.

This nectarine is supposed to have been introduced from Asia into England about sixty years ago. It is much like the foregoing in flavour, perhaps a little richer, but it is less hardy and productive.

Leaves with reniform glands. Fruit rather large, roundish-oval. Skin white, slightly tinged with red. Flesh white, tender, juicy, and rich. Early in September. Flowers large.

Pitmaston's Orange. Lind. Thomp.

Williams' Orange. Williams' Seedling.

The Pitmaston Orange, which is considered the best *yellow*-fleshed nectarine, was raised in 1816 by John Williams, of Pitmaston, near Worcester, England. The tree is vigorous.

Leaves with globose glands. Fruit large, roundish-ovate, the base (towards the stalk) being broad, and the top narrow, and ending in an acute swollen point. Skin rich orange-yellow, with a dark brownish-red cheek, streaked at the union of the two colours. Flesh deep yellow, but red at the stone; melting, juicy, rich, sweet, and of excellent flavour. The stone is rather small. Ripens middle and last of August. Flowers large.

Peterborough. Mill. Lind. Thomp.

Late Green. Vermash (*of some*).

This is the latest nectarine known. It is rather small, and of inferior quality, and scarcely deserves cultivation except to make complete a large collection.

Leaves with reniform glands. Fruit rather small, roundish. Skin mostly green, or slightly tinged with dingy red on the sunny side. Flesh greenish-white to the stone, somewhat juicy, and of tolerable flavour. It ripens early in October. Flowers small.

Stanwick.

A new late variety, highly extolled; but we are not aware of its having fruited except under glass in this country, and it is doubtful if it will ripen at the north in the open air. At the south, probably, it will prove an acquisition.

It was grown in England from a stone brought from Syria, and is described in the Journal of the London Horticultural Society as above medium size, roundish-oval, slightly heart-shape at base. Skin pale greenish-white, shaded into deep, rich violet in the sun. Flesh white, tender, juicy, rich, sugary, and without the slightest trace of prussic-acid flavour.

VIOLETTE HÂTIVE. Lind. Thomp.

Of various European gardens, &c. to Thomp.

- Early Violet.
- Violet *P. Mag.*
- Early Brugnon.
- Brugnon Red at the Stone.
- Hampton Court.
- Large Scarlet.
- New Scarlet.
- Aromatic.
- Petite Violet Hâtive. *O. Duh.*
- Brugnon Hâtif.
- Violette Angervillières.
- Violette Musquée.
- Lord Selsey's Elruge.
- Violet Red at the Stone.
- Violet Musk.

The Violette Hâtive, or Early Violet Nectarine, everywhere takes the highest rank among nectarines. It is of delicious flavour, fine appearance, hardy, and productive. Externally, the fruit is easily confounded with that of the Elruge, but it is readily distinguished by its dark coloured stone, and the deep red flesh surrounding it. The fruit is usually rather darker coloured. It is of French origin, and has been long cultivated.

Leaves with reniform glands. Fruit rather large, roundish, narrowed slightly at the top, where it is also marked with a shallow suture. Skin pale yellowish-green in the shade, but, when exposed, nearly covered with dark purplish red, mottled with pale brown dots. Flesh whitish, but much rayed with red at the stone. The latter is roundish, the furrows not deep, and the surface reddish-brown. The flesh is melting, juicy, rich, and very high flavoured. It ripens about the last of August. Flowers rather small.

The VIOLETTE GROSSE (Thomp.) resembles the foregoing in leaves and flowers, and general appearance. The fruit is, however, larger, but not so richly flavoured.

CLASS II.

CLINGSTONE NECTARINES, (Brugnons, *Fr.*)

BROOMFIELD.

Lewis, (*incorrectly of some.*)

A handsome clingstone nectarine, of second quality. It is an accidental seedling, which sprung up in the garden of Henry Broomfield, Esq., of Harvard, Mass.

Leaves with obscure, reniform glands. Fruit large, roundish. Skin rather dull yellow, with a dull or rather dingy red cheek. Flesh yellow, and adheres closely to the stone, juicy, rather pleasant, but not high flavoured. First to the middle of September. Flowers small.

Golden. Lang. Mill. Thomp

Orange. Fine Gold-fleshed.

A very handsome looking nectarine, but of decidedly indifferent quality when compared with many others. Its waxen appearance, when fully ripe, is very beautiful. It is an old English variety.

Leaves with reniform glands. Fruit of medium size, roundish-ovate. Skin of a fine bright, waxen yellow colour, with a small scarlet cheek. Flesh orange-yellow, firm, juicy, sweet, and tolerably good. It ripens about the 10th of September. Flowers small.

Prince's Golden Nectarine is of much larger size. It ripens about a week later, but is also only of second quality. Leaves with reniform glands. Flowers large.

Newington. Lang. Mill. Thomp.

Scarlet Newington. *Lind.*
Scarlet.
Old Newington.
Smith's Newington.
French Newington.
Sion Hill.
Anderson's.
Anderson's Round.
Rough Roman.
Brugnon de Newington.
D'Angleterre.

A very good clingstone nectarine, of English origin. It should be allowed to hang on the tree till it begins to shrivel, when the flavour is much improved.

Leaves serrated, without glands. Fruit rather large, roundish. Skin pale greenish-yellow, nearly covered with red, marbled with dark red. Flesh firm, pale, but deep red next the stone, juicy, sweet and rich, with an excellent vinous flavour. Ripens about the 10th of September. Flowers large.

Newington Early. Lind. Thomp.

Early Black Newington.
New Dark Newington.
New Early Newington.
Black.
Lucombe's Black.
Lucombe's Seedling.
Early Black.

The Early Newington is one of the best of clingstone nectarines. It is not only a richer flavoured fruit than the old Newington, but it is larger, dark-coloured, and earlier.

Leaves serrated, without glands. Fruit large, roundish, ovate, a little enlarged on one side of the suture, and terminating with an acute swollen point at the top. Skin pale green in its ground, but nearly covered with bright red, much marbled and mottled with very dark red, and coated with a thin bloom. Flesh greenish white, but deep red at the stone, juicy, sugary, rich and very excellent. Beginning of September. Flowers large.

RED ROMAN. FORSYTH. Lind. Thomp.

Old Roman. Brugnon Violette Musquée. *O. Duh.*
Roman. Brugnon Musquée.

The Red Roman is a very old European variety, having been enumerated by Parkinson, in 1629. It is still esteemed, both in Europe and this country, as one of the richest and best of clingstone nectarines. The tree healthy and productive.

The Newington is frequently sold for the Red Roman in this country, and the true Roman is comparatively scarce.

Leaves with reniform glands. Fruit large, roundish, a little flattened at the top. Skin greenish yellow, with a brownish, muddy, red cheek, which is somewhat rough, and marked with brown russety specks. Flesh firm, greenish yellow, and deep red at the stone, juicy, with a rich, high, vinous flavour. Ripening early in September. Flowers large.

Selection of choice hardy Nectarines for a small Garden.—Early Violet, Elruge, Hardwicke Seedling, Hunt's Tawny, Boston, Roman, New White.

CHAPTER XXIV.

THE QUINCE.

Cydonia vulgaris, Dec; *Rosaceæ*, of Botanists.
Coignassier, of the French; *Quittenbaum*, German; *Kivepeer*, Dutch; *Cotogno*, Italian; and *Membrillo*, Spanish.

THE Quince is a well-known, hardy, deciduous tree, of small size, crooked branches, and spreading, bushy head. It is indigenous to Germany and the south of Europe; and it appears first to have attracted notice in the city of *Cydon*, in Crete or Candia—whence its botanical name, Cydonia. The fruit is of a fine golden yellow, and more nearly resembles that of the orange than any other. It was even more highly esteemed by the Greeks and Romans, for preserving, than by us. "Quinces," says Columella, "not only yield pleasure, but health."

The Quince seldom grows higher than fifteen feet, and is usually rather a shrub than a tree. Its large white and pale pink blossoms, which appear rather later than those of other fruit trees, are quite ornamental; and the tree, properly grown, is very ornamental when laden in October and November with its ripe golden fruit.

Uses.—The Quince is, in all its varieties, unfit for eating raw.

It is, however, much esteemed when cooked. For preserving, it is everywhere valued, and an excellent marmalade is also made from it. Stewed, it is very frequently used, to communicate additional flavour and piquancy to apple-tarts, pies, or other pastry. In England, wine is frequently made from the fruit, by adding sugar and water, as in other fruit wines; and it is a popular notion there, that it has a most beneficial effect upon *asthmatic* patients. Dried Quinces are excellent.

In this country, large plantations are sometimes made of the Quince; and as it is in good soil, a plentiful bearer, it is considered one of the most valuable market fruits. The Apple quince is the most productive and saleable; but as the Pear quince ripens, and can be sent to market much later, it frequently is the most profitable.

Propagation.—The Quince is easily propagated from seed, layers, or cuttings. From seeds the quince is somewhat liable to vary in its seedlings, sometimes proving the apple-shaped and sometimes the pear-shaped variety. Cuttings, planted in a shaded situation, early in the spring, root very easily, and this is perhaps the simplest and best way of continuing a good variety. The better sorts are also frequently budded on common seedling quince stocks, or on the common thorn.

Quince *stocks* are extensively used in engrafting or budding the Pear, when it is wished to render that tree *dwarf* in its habit.

Soil and Culture.—The Quince grows naturally in rather moist soil, by the side of rivulets and streams of water. Hence it is a common idea that it should always be planted in some damp neglected part of the garden, where it usually receives little care, and the fruit is often knotty and inferior.

This practice is a very erroneous one. No tree is more benefited by manuring than the quince. In a rich, mellow, deep soil, even if quite dry, it grows with thrice its usual vigour, and bears abundant crops of large and fair fruit. It should, therefore, be planted in deep and good soil, kept in constant cultivation, and it should have a top-dressing of manure every season, when fair and abundant crops are desired. As to pruning, or other care, it requires very little indeed—an occasional thinning out of crowding or decayed branches, being quite sufficient. Thinning the fruit, when there is an overcrop, improves the size of the remainder. Ten feet apart is a suitable distance at which to plant this tree.

The Quince, like the apple, is occasionally subject to the attacks of the borer, and a few other insects, which a little care will prevent or destroy. For their habits we refer the reader to the apple.

Varieties.—Several varieties of the common Quince are enumerated in many catalogues, but there are in reality only three distinct forms of this fruit worth enumerating, viz.:

1. Apple-shaped Quince. Thomp.

Orange Quince. Cydonia v. Maliformis, *Hort. Brit.*
Coignassier Maliforme, *of the French.*

This is the most popular variety in this country. It bears large roundish fruit, shaped much like the apple, which stews quite tender, and is of very excellent flavour. It also bears most abundant crops. Leaves oval.

There are several inferior varieties of the apple quince. The true one bears fruit of the size of the largest apple, fair and smooth, and a fine golden colour.

2. Pear-shaped Quince. Thomp.

Oblong Quince. Coignassier pyriforme, *of the French.*
Cydonier sub. v. pyriform, *Hort. Brit.*

The pear-shaped quince is dryer and of firmer texture than the foregoing. It is rather tough when stewed or cooked, the flesh is less lively in colour, and it is therefore much less esteemed than the apple-shaped variety. The fruit is of medium size, oblong, tapering to the stalk, and shaped much like a pear. The skin is yellow. The leaves are oblong-ovate. It ripens about a fortnight later, and may be preserved in a raw state considerably longer.

3. Portugal Quince. Thomp.

Cydonia Lusitanica. *Hort. Brit.*
Coignassier de Portugal, *of the French.*

The Portugal quince is rather superior to all others in quality, as it is less harsh, stews much better, and is altogether of milder flavour, though not fit for eating raw. For marmalade and baking it is much esteemed, as its flesh turns a fine purple or deep crimson when cooked.

The leaf of the Portugal Quince is larger and broader than that of the common quince, and the growth of the tree is stronger. The fruit is of the largest size, oblong. The skin is in colour not so deep an orange as that of the other sorts.

The Portugal Quince is unfortunately a shy bearer, which is the reason why it has never been so generally cultivated as the Apple Quince.

Rea's Seedling.

Van Slyke.

A new Seedling raised by Joseph Rea, Coxsackie, Greene Co., New York. It is a superb fruit averaging one-third larger than the apple or orange quince, of the same form and colour, fair

and handsome and equally as good, and by some preferred to the apple quince for culinary purposes. Tree healthy, a thrifty grower and productive—an acquisition.*

Ornamental Varieties.—There are two or three ornamental varieties of the quince, which are natives of China and Japan, and are now among the most common and attractive of our garden shrubs. They are the following:—

Japan Quince.

Cydonia Japonica. *Dec.*
Pyrus Japonica. *Thunberg.*

The Japan Quince is a low thorny shrub, with small dark green leaves. It is the most brilliant object in the shrubbery, during the month of April, the branches being clothed with numerous clusters of blossoms, shaped like those of the quince, but rather larger, and of the brightest scarlet. The fruit which occasionally succeeds these flowers, is dark green, very hard, and having a peculiar and not unpleasant smell. It is entirely useless.

The White, or Blush Japan Quince (*C. jap. fl. albo*), resembles the foregoing, except that the flowers are white and pale pink, resembling those of the common apple-tree.

Chinese Quince.

Cydonia Sinensis. *Dec.*

We have had this pretty shrub in our garden for several years, where it flowers abundantly, but has, as yet, produced no fruit. The leaves are oval, somewhat like those of the common quince, but with a shining surface. The flowers are rosy red, rather small, with a delicate violet odour, and have a very pretty effect in the month of May, though much less showy than those of the Japan Quince. The fruit is described as large, egg-shaped, with a green skin and a hard dry flesh, not of any value for eating. The leaves assume a beautiful shade of red in autumn.

* In the fall of 1835, Mr. Rea sent two baskets to New York, containing about half a bushel each, which brought him nine dollars. One basket had 36 quinces in, and sold for five dollars, and the other (40) brought four dollars.

CHAPTER XXV.

THE RASPBERRY AND BLACKBERRY.

1. The Raspberry.

Rubus Idæus, 4: *Rosaceæ*, of botanists.
Framboisier, of the French; *Himbeerstrauch*, German; *Framboos*, Dutch; *Rova ideo*, Italian; and *Frambueso*, Spanish.

The Raspberry is a low deciduous shrub, which in several forms is common in the woods of both Europe and America. The large fruited varieties most esteemed in our gardens have all originated from the long cultivated *Rubus idæus*, or Mount Ida bramble, which appears first to have been introduced into the gardens of the South of Europe from Mount Ida. It is now quite naturalized in some parts of this country. Besides this, we have in the woods the common black raspberry, or thimbleberry (*Rubus occidentalis*, L.), and the red raspberry (*Rubus strigosus*, Michx.), with very good fruit.

The name raspberry (*Raspo*, Italian) is probably from the rasping roughness of prickly wood. The term *raspis* is still used in Scotland.

Uses.—The raspberry is held in general estimation, not only as one of the most refreshing and agreeable sub-acid fruits for the dessert, but it is employed by almost every family in making preserves, jams, ices, sauces, tarts and jellies; and on a larger scale by confectioners for making syrups, by distillers for making raspberry brandy, raspberry vinegar, &c. Raspberry wine, made in the same way as that of currant, is considered the most fragrant and delicious of all home-made wines.

Succeeding the strawberry at the beginning of summer, when there is comparatively little else, this is one of the most invaluable fruits, and, with the strawberry, generally commands the attention of those who have scarcely room for fruit trees. It is, next to the strawberry, one of the most wholesome berries, and not being liable to undergo the acetous fermentation in the stomach, it is considered beneficial in cases of gout or rheumatism.

Propagation.—The raspberry is universally propagated by suckers, or offsets, springing up from the main roots. Seeds are only planted when new varieties are desired. The seedlings come into bearing at two or three years of age.

Soil and Culture.—The best soil is a rich deep loam, rather moist than dry, but the raspberry will thrive well in any soil that

is rich and deep, provided it is fully exposed to the sun and air.

In making a plantation of raspberries, choose, therefore, an open sunny quarter of the garden, where the soil is good and deep. Plant the suckers or canes in rows, from three to four feet apart, according to the vigour of the sort. Two or three suckers are generally planted together, to form a group or *stool*, and these stools may be three feet apart in the rows.

The plantation being made, its treatment consists chiefly in a single pruning, every year, given early in the spring. To perform this, examine the stools in April, and leaving the strongest shoots or suckers, say about six or eight to each stool, cut away all the old wood, and all the other suckers (except such as are wanted for new plantations). The remaining shoots should have about a foot of their ends cut off, as this part of the wood is feeble and worthless. With a light top-dressing of manure, the ground should then be dug over, and little other care will be requisite during the season.

When very neat culture and the largest fruit are desired, more space is left between the rows, and after being pruned, the canes are tied to long lines of rods or rails, like an espalier, by which means they are more fully exposed to the sun and light, and the ground between the rows is kept cropped with small vegetables.

A fine late crop of raspberries is readily obtained by cutting down the canes over the whole stool, in the spring, to within a few inches of the ground. They will then shoot up new wood, which comes into bearing in August or September.

We have found a light application of salt given with the top-dressing of manure in the spring, to have a most beneficial effect on the vigour of the plants, and the size of the fruit.

A plantation of raspberries will be in perfection at the third year, and after it has borne about five or six years, it must be broken up, and a new one formed, on another plot of ground.

All the raspberries except the hardy American varieties should be pruned in the fall. After which bend the canes gently on the ground, and cover them an inch or two deep with earth; let them remain in the spring until the cold winds are over, or until the buds begin to swell, then take them up and tie them to stakes or frames.

Varieties.—The finest raspberries in general cultivation for the dessert, are the red and white Antwerp, Fastolff, Orange, Cushing, French and Franconia.

The common American Red is most esteemed for flavouring liqueurs or making brandy, and the American Black is preferred by most persons for cooking. The Ever-bearing and the Ohio Ever-bearing, are valuable for prolonging the season of this fruit till late frosts.

Antwerp Red.

Old Red Antwerp.
Knevett's Antwerp.
True Red Antwerp.
Howland's Red Antwerp.
Framboisier à Gros Fruit.
Burley.

This is the common Red Antwerp of England and this country, and is quite distinct from the North River variety, which is shorter in growth, and has a conical fruit.

Canes strong and tall, spines light red, rather numerous and pretty strong. Fruit large, nearly globular, or obtuse-conical. Colour dark-red, with large grains, and covered with a thick bloom. Flesh juicy, with a brisk vinous flavour.

Antwerp. Hudson River.

New Red Antwerp.

Origin unknown, but as far as we have been able to trace it, was first brought to this country by the late Mr. Briggs, of Poughkeepsie, N. Y., about forty years since, who obtained it from the garden of the Duke of Bedford, England, who is said to have paid a guinea for two plants.

Its firmness of flesh and parting readily from the germ, together with its productiveness, renders it the most popular variety for market.

Canes short, but of sturdy growth, almost spineless, of a very peculiar grey, or mouse colour. Fruit large, conical. Flesh firm, rather dull-red, with a slight bloom; not very juicy, but of a pleasant, sweet flavour.

Antwerp Yellow. Thomp. Lind.

White Antwerp. Double-Bearing Yellow.

The Yellow Antwerp is a large, light-coloured raspberry, and with a high cultivation, a good sort, but greatly surpassed by the Orange.

Fruit large, nearly conical, pale-yellow, sweet, and of good flavour. Canes strong and vigorous, light-yellow, sometimes with many bristles or spines, often nearly smooth; productive.

American Red.

Common Red. English Red (*of some*).
Red Prolific.

The Common Red Raspberry is a native of this and all the middle states. It ripens nearly a week earlier than the Antwerps, bears well, and though inferior in flavour and size to these sorts, is esteemed by many persons, particularly for flavouring liqueurs.

Fruit of medium size, roundish, light-red, pleasant, sub-acid in

flavour. Shoots very vigorous, long, upright, and branching; grows from six to ten feet high. Light shining brown, with purplish spines. Leaves narrow, light-green.

American Black.

Common Black-Cap. Black Raspberry.
Thimble-Berry. Rubus Occidentalis.

This raspberry, common in almost every field, with long, rambling, purple shoots, and flattened, small black berries, is everywhere known. It is frequently cultivated in gardens, where, if kept well pruned, its fruit is much larger and finer. Its rich, acid flavour renders it, perhaps, the finest sort for kitchen use —tarts, puddings, &c. It ripens later than other raspberries.

The American White resembles the foregoing in all respects, except in the colour of its fruit, which is pale-yellow or white.

Barnet

Cornwall's Prolific. Lord Exmouth's.
Cornwall's Seedling. Large Red.

An old English variety of some merit, but has not succeeded well here.

Fruit large, roundish; conical, bright, purplish-red; pleasant flavour. Canes long, yellowish-green, branching.

Brentford Cane.

English. Fruit medium, oval, conical, dull dark-red; inferior to the best; not productive.

Col. Wilder.

Originated with Dr. Brinckle, Philadelphia. Fruit large, roundish, semi-transparent, yellowish-white, or cream-colour; pleasant light flavour, but not rich; strong white spines; leaf much crimped; productive, and a good grower.

Cope.

Raised by Dr. Brinckle. Fruit large, conical; crimson, red spines; foliage of a lighter green, and more deeply serrated than any other of his seedlings. (Wilder in Hort.)

Cretan Red.

A rather late variety, of medium quality. Fruit of medium size, globular, inclining to conical, deep purplish-red; sub-acid, and good.

Cushing.

Originated with Dr. Brinckle, Philadelphia. Fruit roundish, conical, regular in form; crimson, with a thin bloom; sprightly rich acid flavour; parts freely from the germ; moderate grower; leaf much plaited; very productive, and occasionally produces a second crop. This is one of the finest sorts for preserving.

Emily.

A seedling of Col. Wilder. Large, conical; sometimes round, often shouldered, which distinguishes it from the other varieties; light-yellow; vigorous grower; very productive; white spines.

Fastolff.

The Fastollf raspberry is an English variety of high reputation. It derives its name from having originated near the ruins of an old castle, so called, in Great Yarmouth.

Fruit very large; obtuse, or roundish-conical, bright purplish-red; rich and high flavoured; slightly adhering to the germ in picking. Canes strong, rather erect, branching; light yellowish-brown, with few pretty strong bristles.

Franconia.

This was imported from Vilmorin, of Paris, under this name, by S. G. Perkins, Esq., of Boston, some years ago. Its crops are abundant, the fruit is firm, and bears carriage to market well; and it ripens about a week later than Red Antwerp. It is one of the finest for preserving.

Fruit large, obtuse-conical, dark purplish-red, of a rich acid flavour; much more tart and brisk than that of the Red Antwerp. Canes strong, spreading, branching, yellowish-brown, with scattered, rather stout purple spines; leaves rather large, very deep green.

French.

Vice-President French.

Originated with Dr. Brinckle. A little later than most sorts; a very productive, vigorous grower, and promises to become an excellent market variety, as well as for family use.

Fruit large, roundish, or very obtuse-conical; deep-red, thin bloom, juicy, sweet, mild, and fine flavour: grains large; separates freely from the germ; crimson spines, not very strong; leaf large, rather flat, regular, dark-green.

Fulton.

A seedling of the French. Raised by Dr. Brinckle. Fruit

large, round, crimson; productive; a vigorous grower; red spines. (Wilder in Hort.)

Gen. Patterson.

A seedling of the Col. Wilder. Raised by Dr. Brinckle. Fruit large, round, crimson; does not part readily from the stem; vigorous grower; very productive; red spines. (Hort.)

Knevet's Giant.

This is one of the strongest-growing varieties; very productive, and of excellent flavour. Canes strong, erect; spines small, reddish, very few. Fruit of the largest size, obtuse-conical, deep-red, firm in texture, and hangs a little to the germ in picking; berries sometimes double, giving them a cockscomb appearance.

Magnum Bonum.

A white or yellowish fruit, of large size; rather firm flesh, and finely flavoured; similar to the Old Yellow Antwerp; very productive and vigorous.

Northumberland Fillbasket.

A new foreign variety. A strong, vigorous grower, with numerous rather strong crimson-coloured spines.

Fruit somewhat globular or obtuse-conical, deep-red, with a good, pleasant, slightly-acid flavour; productive.

Nottingham Scarlet.

An old English variety, of medium size, obtuse-conical, red, good flavour.

Orange.

Brinckle's Orange.

Originated with Dr. Brinckle. Fruit large, conical, sometimes ovate; beautiful orange colour, and one of the very best now cultivated; very productive; strong grower; leaf quite sportive in form; strong, white spines, and often reproduces its kind from seed.

Thunderer.

Foreign. Strong grower; canes erect; spines red; not numerous; productive. Fruit rather large, obtuse-conical, deep-red; rather acid flavour.

Walker.

Raised by Dr. Brinckle. Fruit large, round, deep crimson,

solid; adheres firmly to the stem; keeps long in perfection on the plant; bears carriage well. Promises to be valuable as a market variety. Red spines. (Hort.)

Woodward.

Raised by Dr. Brinckle. This is one of the smallest varieties, though larger than the ordinary wild raspberry. Fruit round, sometimes roundish-ovate; crimson; red spines; has ripened as early as the 10th of June. (Wilder in Hort.)

Autumnal Raspberries.

The ever-bearing foreign varieties have not given general satisfaction in this country; our dry, hot summers seem to be unfavourable for a full crop. Cut the canes to the ground in the spring, and the young shoots will give a fair crop in the autumn, if the season is moist and favourable. They are only worthy the attention of amateurs.

Belle de Fontenay.

A dwarf-growing variety with large and deep green leaves; bears large fruit all the autumn of good flavour, but requires warm soil and exposure. (Hort.)

Catawissa.

A native of Columbia Co., Penn. Vigorous and very productive. Fruit medium size, flattened; dark crimson, covered with thick bloom; flavour sprightly, rather acid, more suited to the amateur than for general cultivation. Commences ripening about the first of August, and continues in use a long time.

Double Bearing.

Perpetual Bearing. Late Liberian.

A variety of the Antwerp; formerly esteemed for its habit of bearing late in the season; but is now surpassed by better kinds.

Large Fruited Monthly.

River's New Large Monthly.

Fruit above medium size, roundish-conical; crimson. Flesh soft, sweet, and excellent. Canes moderately strong, upright; spines red, stout, and numerous.

Merveille de Quatre Saisons.

Large, bright-red, and is of all the autumnal Raspberries, the most abundant bearer; its spikes of fruit are often twelve or eighteen inches long, and produced till the end of October. (Hort.)

Merveille de Quatre Saisons.

Yellow fruit, a new variety, raised from the above. It bears abundantly in the autumn, and its fruit is sweet and well flavoured. (Hort.)

Ohio, Everbearing.

Ohio Raspberry. *Ken.*

This is a native of Ohio, and was first made known to Eastern cultivators by Mr. Longworth, of Cincinnati, though, we believe, it had been cultivated for some time previous, at a Quaker settlement in Ohio. It is precisely like the American Black Raspberry, or Black-cap, in all respects, except that it has the valuable property of bearing abundant crops of fine fruit, till late in the season. We have seen a quart gathered from a single plant, on the 1st day of November. It deserves a place in every large garden.

Victoria. (Roger's.)

"Large dark-red, habit rather dwarf, bears abundantly, and very good." (Riv. Cat.)

The Blackberry.

There are several species of the Bramble indigenous to this country, which produce eatable fruit, but the best for the table, or for cooking, are the Low Blackberry, a trailing shrub, and the following varieties of the High Blackberry.

The fruit is larger than that of the Raspberry, with fewer and larger grains, and a brisker flavour. It ripens about the last of July, or early in August, after the former is past, and is much used by all classes in this country. The sorts are seldom cultivated in gardens, as the fruit is produced in such great abundance in a wild state; but there is no doubt that varieties of much larger size, and greatly superior flavour, might be produced by sowing the seeds in rich garden soil, especially if repeated for two or three successive generations.

Low Blackberry.

Trailing Blackberry. Dewberry.
Rubus Canadensis. *Lin.*

A low trailing, prickly shrub, producing large white blossoms in May, and very large roundish-oblong black fruit in midsummer. Leaflets from three to five in number. The fruit, when in good soil, and fully exposed to the sun, is high flavoured, sweet, and excellent.

High Blackberry.

Bush Blackberry.
Rubus Villosus. *Tor. and Gray.*

This is an erect growing blackberry, the stems tall, and more or less branching. In its foliage it resembles the foregoing, but its flowers, which are white, are smaller. The fruit is also smaller, rounder, not so dark-coloured (being reddish-black). and though good, is seldom so juicy or high-flavoured.

There is a variety, cultivated abroad, with *white* fruit.

Dorchester.

Introduced to notice by the late Capt. Lovett, of Beverly, Mass., nearly equal in size to New Rochelle, of a more elongated form, grains rather smaller, somewhat sweeter, and producing large crops of high-flavoured fruit; a vigorous grower.

Fruit large, oblong, conic; sometimes measuring an inch and a quarter in length, of a deep shining black. The berries should be fully matured before they are gathered; it bears carriage well. Ripens about the first of August.

New Rochelle.

Seacor's Mammouth. Lawton.

This remarkable variety was found by Lewis A. Seacor, in its native wildness by the road-side in the town of New Rochelle, Westchester Co., N. Y. It is of very vigorous growth, with strong spines which belong to the bramble; is hardy and exceedingly productive. Fruit very large, oval, and when fully ripe, intensely black; when mature, the fruit is very juicy, rather soft and tender with a sweet excellent flavour; when gathered too early it is acid and insipid. The granules are larger, consequently the fruit is less seedy than any other variety. Ripens about the first of August, and continues in use five or six weeks.

Newman's Thornless.

A new variety discovered by Jonas Newman, Ulster Co., N. Y. Promises to be valuable; growth not so vigorous as New Rochelle and Dorchester, but produces abundantly of good-sized oval berries of excellent flavour; the canes have but few spines or thorns in comparison to the others, which is an important consideration. We have too little personal knowledge of it to speak decidedly of its merits. Ripens about the first of August.

Ornamental Varieties.—The "Double White Blossomed," and "Double Pink-blossomed Brambles" are beautiful climb-

ing shrubs, of remarkably luxuriant growth, which may be trained for a great length in a season, and are admirably adapted for covering walls and unsightly buildings. The flowers are like small double roses, and are produced in numerous clusters in June, having a very pretty effect. North of New York these climbers are rather tender in severe winters.

The Rose Flowering Bramble (*Rubus odoratus*) is a very pretty native shrub, with large broad leaves, and pleasing rose-coloured flowers, and groups well with other shrubs in ornamental plantations.

CHAPTER XXVI.

THE STRAWBERRY.

Fragaria (of species) L. *Rosaceæ*, of botanists.
Frasier, of the French; *Erdbeerpflanze*, German; *Aadbezie*, Dutch; *Pianta di Fragola*, Italian; and *Fresa*, Spanish.

The Strawberry is the most delicious and the most wholesome of all berries, and the most universally cultivated in all gardens of northern climates. It is a native of the temperate latitudes of both hemispheres,—of Europe, Asia, North and South America; though the species found in different parts of the world are of distinct habit, and have each given rise, through cultivation, to different classes of fruit—scarlet strawberries, pine strawberries, wood strawberries, hautbois, &c.

The name of this fruit is popularly understood to have arisen from the common and ancient practice of laying straw between the plants to keep the fruit clean. In the olden times, the variety of strawberries was very limited, and the garden was chiefly supplied with material for new plantations from the woods. Old Tusser, in his "Five Hundred Points of Good Husbandry," points out where the best plants of his time were to be had, and turns them over with an abrupt, farmer-like contempt of little matters, to feminine hands:—

> "Wife, into the garden, and set me a plot,
> With strawberry roots, of the best to be got;
> Such growing abroad, among thorns in the wood,
> Well chosen and picked, prove excellent good."

The strawberry belongs properly to cold climates, and though well known, is of comparatively little value in the south of Europe. Old Roman and Greek poets have not, therefore, sung its praises; but after that line of a northern bard,

> "A dish of ripe strawberries, smothered in cream,"

which we consider a perfect *pastoral idyl* (as the German school would say) in itself, nothing remains to be wished for. We have heard of individuals who really did not, by nature, relish strawberries, but we confess that we have always had the same doubts of their existence as we have of that of the unicorn.

Ripe, blushing strawberries, eaten from the plant, or served with sugar and cream, are certainly Arcadian dainties with a true paradisiacal flavour, and, fortunately, they are so easily grown that the poorest owner of a few feet of ground may have them in abundance.

To the confectioner this fruit is also invaluable, communicating its flavour to ices, and forming several delicate preserves. In Paris a cooling drink, *bavaroise à la grecque*, is made of the juice of strawberries and lemons, with the addition of sugar and water.

The strawberry is perhaps the most wholesome of all fruits, being very easy of digestion, and never growing acid by fermentation, as most other fruits do. The often-quoted instance of the great Linnæus curing himself of the gout by partaking freely of strawberries—a proof of its great wholesomeness—is a letter of credit which this tempting fruit has long enjoyed, for the consolation of those who are looking for a bitter concealed under every sweet.

Propagation and Soil. The strawberry propagates itself very rapidly by runners* which are always taken to form new plantations or beds. These are taken off the parent plants early in spring, and either planted at once where they are to grow, or put out in nursery beds, or rows, to get well established for the next spring-bearing. When the parent plants have become degenerated, or partially or wholly barren, we should avoid taking the runners from such, and choose only those which grow from the most fruitful ones. In order to be sure of the latter point, it is only necessary to mark the best-bearing plants by small sticks pushed into the bed by the side of each when the fruit is in perfection. Some varieties, as the Prolific Hautbois, the English Wood, and the Large Early Scarlet, are not liable to this deterioration, and therefore it is not necessary to select the runners carefully; but others, as the Pine strawberries, and some of the Scarlets, are very liable to it; and if the runners are taken and planted promiscuously, the beds so made will be nearly barren.

The best soil for the strawberry is a deep, rich loam. Deep it must be, if large berries and plentiful crops are desired; and the wisest course, therefore, where the soil is naturally thin, lies in trenching and manuring the plot of ground thoroughly, be-

* Excepting the *Bush* Alpines, which have no runners, and are propagated by division of the roots.

fore putting out the plants. But even if this is not necessary, it should be dug deeply, and well enriched with strong manure beforehand.

The best exposure for strawberries is an open one, fully exposed to the sun and light.

Culture in Rows. The finest strawberries are always obtained when the plants are kept in *rows*, at such a distance apart as to give sufficient space for the roots, and abundance of light and air for the leaves.

In planting a plot of strawberries in rows, the rows should be two feet apart, and the plants, of the large-growing kinds, two feet from each other in the rows; of the smaller-growing kinds, from one foot to eighteen inches is sufficient. The runners must be kept down by cutting them off at least three times a year, and the ground must be maintained in good order by constant dressing. During the first year, a row of any small vegetables may be sown in the spaces between the rows. Every autumn, if the plants are not luxuriant, a light coat of manure should be dug in between the rows; but if they are very thrifty, it must be omitted, as it would cause them to run too much to leaf.

A light top-dressing of leaves, or any good compost, applied late in the fall, though not necessary, greatly promotes the vigour of the plants, and secures the most tender kinds against the effects of an unusually cold winter. Before the fruit ripens, the ground between the rows should be covered with straw, or light new-mown grass, to keep it clean.

A plantation of this kind in rows will be found to bear the largest and finest fruit, which, being so fully exposed to the sun, will always be sweeter and higher-flavoured than that grown in crowded beds. A plantation in rows is generally in full perfection the third year, and must always be renewed after the fourth year.

Culture in alternate Strips. A still more easy and economical mode is that of growing the strawberry in alternate strips.

Early in April, or in August, being provided with a good stock of strong young plants, select a suitable piece of good deep soil. Dig in a heavy coat of stable manure, pulverizing well and raking the top soil. Strike out the rows, three feet apart, with a line. The plants should now be planted along each line about a foot apart in the row. They will soon send out runners, and these runners should be allowed to take possession of every alternate strip of three feet—the other strip being kept bare by continually destroying all runners upon it, the whole patch being kept free of all weeds. The occupied strip or bed of runners will now give a heavy crop of strawberries, and the open strip of three feet will serve as an alley from which to gather the fruit. After the crop is over, dig and prepare this alley or strip for the occupancy of the new runners

for the next season's crop. The runners from the old strip will now speedily cover the new space allotted to them, and will perhaps require a partial thinning out to have them evenly distributed. As soon as this is the case, say about the middle of August, dig under the whole of the old plants with a light coat of manure. The surface may be then sown with turnips or spinage, which will come off before the next season of fruits.

In this way the strips or beds, occupied by the plants, are reversed every season, and the same plot of ground may thus be continued in a productive state for many years.

Both of the above modes are so superior to the common one of growing them more closely in *beds*, that we shall not give any directions respecting the latter.

It may be remarked that the Alpine and European Wood strawberries will do well, and bear longer in a rather shaded situation. The Bush-Alpine, an excellent sort, having no runners, makes one of the neatest *borders* for quarters or beds in the kitchen garden, and produces considerable fruit till the season of late frosts. If the May crop of blossoms is taken off, they will give an abundant crop in September, and they are, therefore, very desirable in all gardens.

To accelerate the ripening of early kinds in the open garden it is only necessary to plant rows or beds on the south side of a wall or tight fence. A still simpler mode, by which their maturity will be hastened ten days, is that of throwing up a ridge of soil three feet high, running east and west, and planting it in rows on the south side. (The north side may also be planted with later sorts, which will be somewhat retarded in ripening.) The best early sorts for this purpose are Jenny Lind, and Large Early Scarlet.

Staminate and Pistillate Plants.—A great number of experiments have been made, and a great deal has been written lately, in this country, regarding the most certain mode of producing *large crops* of this fruit. On one hand it is certain that, with the ordinary modes of cultivation, many fine kinds of strawberries have disappointed their cultivators by becoming barren; on the other, it is equally certain, that, by the mode of cultivation practised at Cincinnati, large crops may be obtained every year.

The Cincinnati cultivators divide all Strawberries into two classes, characterized by their *blossoms*. The first of these they call *staminate* (or male), from the stamens being chiefly developed; the second are called *pistillate* (or female), from the pistils being chiefly developed.

The first class, to which belong various sorts, as Keen's Seedling, British Queen, etc., usually in this climate bear uncertain crops, from the fact that only a part of the blossoms develop the pistils sufficiently to swell into perfect fruit.

The second class, to which belong various other sorts, such as Hovey's Seedling, Black Prince, etc., producing only pistil-bearing flowers, do not set fruit at all when grown quite apart by themselves; but when grown near a proper number of staminate plants, so as to be duly fertilized by them, they bear much larger crops, of much more perfect berries, than can be produced in this climate in any other way.

This is no longer a matter of theory, for the market of Cincinnati, in which are sold six thousand bushels of strawberries annually, is supplied more abundantly and regularly than perhaps any other in the world, by this very mode of culture.

In planting strawberry beds, it is important, therefore, to the cultivator, to know which are the *staminate*, and which the *pistillate*, varieties—as they are found to be permanent in these characters. We have, accordingly, designated these traits in the descriptions of the varieties which follow.

Upon the relative proportion of *staminates* to pistillate plants, cultivators are not absolutely agreed. Where, however, such hardy sorts as the Large Early Scarlet, or Boston Pine, are chosen for *staminates*, it is sufficient to plant *one-eighth* as many of these as of *pistillates*, to insure a full crop of the latter. When staminate sorts, like Keen's Seedling, or like less hardy kinds, are chosen, then the proportion should be *one-third* to two-thirds of pistillates.

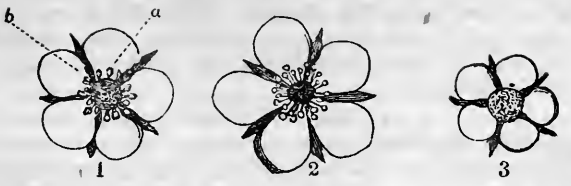
Thus, in planting in the *alternate-strip* mode, let every twelve feet of each strip be planted with Hovey's Seedling (*pistillate*), and the succeeding four feet with Large Early Scarlet. A very little trouble, bestowed when the runners are extending across the open spaces, will preserve the proportion good from year to year. The appearance of a plat, planted in this way, will be as follows: S represents *staminate*, and P *pistillate*, varieties.

S S S
S S S
S S S
P P P
P P P
P P P
P P P
P P P
P P P
P P P
P P P
P P P
P P P
S S S
S S S
S S S
S S S

In planting in beds, the same course may be adopted, or, what is perhaps better, every third or fourth bed may be entirely staminate, and the rest pistillate sorts (the beds in this case being supposed to be side by side).

Nothing is easier than to distinguish the two classes of strawberries when in blossom. In one, the *staminate*, the long yellow anthers (*a*), bearing the fine dust or pollen, are abundant; in the other, the *pistillate*, only the cluster of pistils (*b*), looking like a very minute green strawberry, is visible—(that is to the common observer, for the wanting organs are merely *rudimentary*, and not developed).

Strawberry Blossoms.



Perfect blossom. *Staminate blossom.* *Pistillate blossom.*

Besides these, there is really a third class, quite distinct, the blossoms of which are regularly hermaphrodite, or *perfect*, in themselves, and which always bear excellent crops—though not perhaps so large as some of the most prolific of the pistillates do when fertilized. To this belong the Common English Wood Strawberries and the Alpines. Hence, these old inhabitants of the gardens have, from their uniform productiveness, long been favourites with many who have not understood the character and habits of the larger staminate and pistillate varieties. No. 1 as above shows the blossom of this class of strawberries.

Varieties.—The varieties of this fruit are very numerous, indeed quite unnecessarily so for all useful purposes. They have chiefly been originated abroad within the last thirty years. The different species from which the varieties have been raised, have given a character to certain classes of Strawberries, pretty distinctly marked. Thus, from our own Wild Strawberry, or Virginia Scarlet, as it is called abroad, have originated the Scarlet Strawberries; from the Pine or Surinam Strawberry has been raised the class called Pines. From the common Wood Strawberry of Europe, another class, comprising the Woods and Alpines. Besides, there are the Hautbois, from a sort, a native of Bohemia, the Chili Strawberries, from South America, the Green Strawberries, and the Black Strawberries.

Of these the Pines and the Scarlets are the largest and highest flavoured. The Wood and Alpine Strawberries are valuable for bearing a long time, and parting freely from the hull or stalk, in picking.

CLASS I.

Scarlet and Pine Strawberries comprising such Varieties as are most generally esteemed.

Boston Pine.

Raised by C. M. Hovey, Boston, Mass. This fine early strawberry, to have it in perfection, requires rich, deep soil, and to be grown in hills or bunches eighteen or twenty inches apart each

way. Flowers pistillate. Fruit rather large, roundish, slightly conical; colour deep glossy crimson. Flesh rather firm, juicy, rich, and of excellent flavour—an uncertain variety in many places. On rich, deep, gravelly soil, we have seen it in the greatest perfection.

Burr's New Pine.

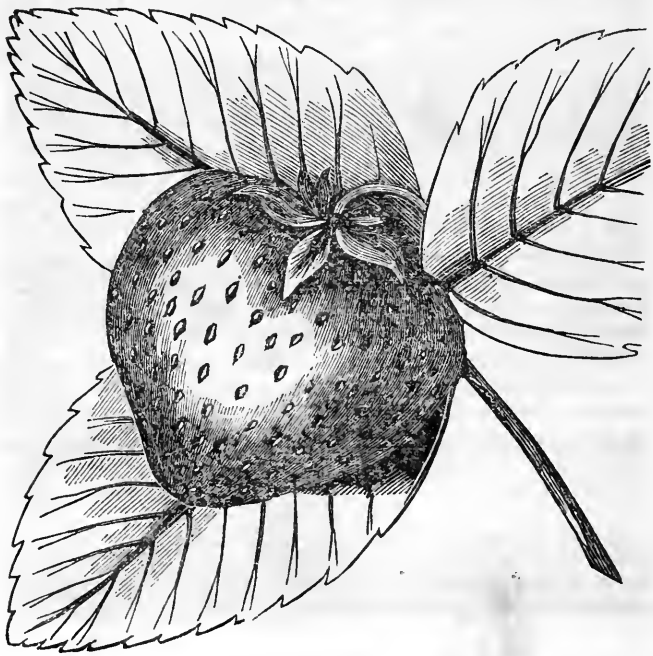
Raised by Mr. Burr, Columbus, Ohio. Vines moderately vigorous, productive; flowers pistillate. Fruit medium, regular, roundish-conical; colour light crimson. Flesh tender, juicy, with a sweet, rich, aromatic flavour.

This fine early variety is suited for the amateur and family use (the surface being too tender for market purpose). It requires high cultivation and good care; with such treatment, the grower is well paid. It is rather tender in many localities; extremes of heat and cold affect it.

Crimson Cone.

Scotch Pine Apple. Dutchberry.

An old and beautiful variety, much grown for the New York market: a hardy, vigorous grower, productive; flowers pistillate. Fruit medium, regular, elongated-conic. Colour deep crimson; seeds deeply imbedded. Flesh rather firm, sprightly, with a rich acid flavor; rather late in ripening. One of the best for preserving.



Hovey's Seedling.

Hovey's Seedling. Hov. Mag.

This splendid Strawberry was raised in 1834, by Messrs. Hovey, seedsmen, of Boston, and is undoubtedly, for this climate, one of the finest of all varieties. The vines are unusually vigorous and hardy, producing very large crops, and the fruit is always of the largest size and finely flavoured. It is well known at the present moment throughout all the states, and has everywhere proved superior for all general purposes, to any other large-fruited kind. The leaves are large, rather light green, and the fruit-stalk long and erect.

Fruit very large, roundish oval, or slightly conical, deep shining scarlet, seeds slightly imbedded; flesh firm, with a rich, agreeable flavour. It ripens about the medium season, or a few days after it. Flowers pistillate.

Jenny's Seedling.

An American variety, hardy, vigorous, and productive. Flowers pistillate. Fruit large, roundish, conical; colour rich dark-red. Flesh firm, rich, sprightly subacid. An excellent variety for market and preserving.

Large Early Scarlet.

Early Virginia.

An American variety; one of the earliest; an abundant bearer; popular in many sections. Flowers staminate. Fruit medium or below, roundish ovate, regularly formed; light scarlet, seeds deeply imbedded. Flesh tender, of a rich excellent flavour.

Longworth's Prolific.

Schneicke's Seedling.

Originated at Cincinnati on the lands of Mr. Longworth in the Garden of Eden by Mr. Schneicke. Flowers hermaphrodite. Vines vigorous and very productive; foot-stalks long, stout; leaves large, not very thick, considerably ruffled. Fruit large, roundish, broad at base, sometimes oblate; colour light-crimson. Flesh firm, scarlet, with numerous rays (the remains of the filaments). Flavour rich, briskly acid.

M'Avoy's Superior.

M'Avoy's, No. 12.

Origin, Cincinnati, on the lands of Mr. Longworth. Flowers pistillate; vines hardy, very vigorous and very productive; leaves broad and dark; foot-stalks long and stout; trusses large and full. Fruit large, roundish, irregularly oblate, more or less

necked. Colour light crimson, becoming deep crimson at full maturity. Flesh deep scarlet, tender, very juicy, with an exceedingly rich, vinous flavour; surface of the fruit rather tender, and will not bear long carriage.

Walker's Seedling.

Raised by Samuel Walker, Roxbury, Mass. A very handsome, excellent, and productive variety. Flowers staminate. Fruit medium to large; regular, generally conic. Colour very deep crimson, becoming maroon at maturity, glossy. Flesh deep crimson, tender, juicy, with a fine, rich, brisk acid flavour.

CLASS II.

Comprising varieties of very good quality—some suited to certain localities, and many not yet well tested.

Admiral Dundas. (Myatts.)

An English variety, of vigorous habit. Flowers staminate. Fruit large, irregular, or somewhat flattened, or angular shape in the large berries, and conical in the smaller ones. Colour, pale scarlet. Flesh moderately firm, juicy, with a good but not high flavour. (Hov. Mag.)

Ajax. (Nicholson's.)

An English variety. A large, dark-coloured fruit, of a blunt, ovate form, with a deep-coloured flesh, well-flavoured and good. Vines not hardy. (Hov. Mag.)

Alice Maud.

A foreign variety. Flowers staminate. Plant strong and vigorous; requires plenty of room, deep and rich cultivation, to succeed well. Mr. John Saul, of Washington, says it is grown extensively around that city by the market gardeners, and is one of their best for that purpose. Fruit large, conical. Colour, dark, glossy scarlet. Flesh light scarlet, juicy, rich, and excellent.

Picton Pine.

A new English variety, but too tender for our climate. Fruit large, roundish. Colour white, with a tinge of pink on the sunny side. Flesh tender, delicate, mild and pleasant, but not rich.

Black Prince.

Black Imperial.

A foreign variety, and, when in perfection, of the best quality.

It generally does best on a stiff, heavy loam. Variable. In some localities, fine; in others, insipid, sour, and worthless. Flowers pistillate; vines vigorous and productive. Fruit large, regular, roundish, or ovate depressed. Colour very deep crimson, almost black, glossy. Flesh deep crimson, rather firm; rich and high-flavoured.

Bishop's Orange.

Bishop's New. Orange Hudson Bay.

American. Flowers pistillate; vines hardy, vigorous, and productive. Fruit medium, conical, regular. Colour light scarlet, approaching orange. Flesh rather firm, rich, and excellent. Requires good cultivation.

British Queen.

Myatt's British Queen.

Raised by Mr. Myatt, England. Flowers staminate, plant vigorous; foliage large, rather tender, affected with extremes of heat and cold: requires deep, rich cultivation, and should be grown in hills to bring it to perfection, and is then productive; but with ordinary care is a shy bearer, and not worth growing. Fruit very large, roundish, conical; occasionally cockscomb-shaped, of a beautiful shining scarlet. Flesh rather firm, juicy, rich, and excellent.

Brighton Pine.

Raised by Mr. Scott, of Brighton, Mass. Said to be early, hardy, and productive. Fruit large, conical, deep crimson, rich, sprightly flavour.

Burr's Seedling.

Burr's Old Seedling. Burr's Staminate.

Raised by Mr. Burr, Columbus, Ohio. Staminate; vines hardy, vigorous, and productive. Fruit rather large, roundish, inclining to conic. Colour light scarlet. Flesh tender, juicy, with a mild, pleasant flavour.

Capt. Cook.

An English variety of large size, somewhat resembling the British Queen, but not quite so large: the colour is dark and rich. (Hov. Mag.)

Crystal Palace.

An English variety of vigorous growth; hardy, and requires plenty of room. Fruit large, very conical, regular; brilliant,

glossy scarlet. Flesh firm, fine-grained, juicy, and high-flavoured. (Hov. Mag.)

Cushing.

Raised by Dr. W. D. Brinckle, Philadelphia. Fruit medium, roundish, conical. Colour light scarlet. Flesh tender, with a sprightly, pleasant flavour. Moderately productive.

Diadem.

Raised by William R. Prince. Pistillate; very large, showy, rounded, beautiful light scarlet; pleasant flavour; a remarkably fine and beautiful berry. Plant very robust, vigorous, and hardy. Very productive. (Pr. Cat.)

Duc de Brabant.

From Belgium. Fruit large, conical; bright scarlet, good flavour; tolerably productive and early.

Fill-Basket.

A new English variety; said to be very productive and valuable as a market fruit. Very large, roundish; dark scarlet; beautiful; good flavour. (Hov. Mag.)

Germantown.

Young's Seedling.

Originated with Mr. G. Young, a market gardener of Germantown, near Philadelphia. Said to be the best in cultivation for market purposes. Plant vigorous, hardy; very productive, and continues a long time in bearing. Fruit very large, regular, roundish, conical. Colour rich dark crimson. Flesh rather firm, sweet, rich, and high-flavoured.

Genesee.

Raised by Ellwanger and Barry, Rochester, N. Y. Hardy, vigorous, moderately productive. Staminate. Fruit rather large, roundish, somewhat oblate; largest at centre; tapering towards base and apex; generally necked. Colour scarlet, inclining to crimson. Flesh tender, juicy, mild and pleasant; not rich.

Goliath. (Kitley's.)

Flowers staminate; plant vigorous and hardy. Fruit very large, irregular; bright scarlet, rich, high flavour, and, like all the English varieties, requires plenty of room and high culture.

Hooker.

Raised by H. E. Hooker, Rochester, N. Y., and is highly esteemed in that vicinity. Flowers hermaphrodite; plant vigorous, hardy, and productive, foliage large and broad; foot stalks long and rather stout. Fruit large, broadly conical, regular, very large, specimens, sometimes cockscomb-shaped or depressed. Colour deep crimson, almost maroon, with a polished surface, which is rather soft. Flesh deep crimson, rather tender, juicy, with a fine rich flavour.

Hudson.

Hudson's Bay. American Scarlet.
Late Scarlet. York River Scarlet.

An old American variety, formerly much cultivated for the markets; but other and larger kinds are taking its place. Flowers pistillate. Fruit medium, conical; sometimes with a neck. Colour rich, dark shining red; seeds deeply imbedded. Flesh firm, of a high, but brisk acid flavour. Good for preserving.

Imperial Crimson.

Raised by W. R. Prince. Flowers pistillate. Fruit large; short cone, or rounded; colour dark scarlet or crimson. Flesh firm, sweet, and fine flavour, productive. First rate. (Wm. R. Prince.)

Imperial Scarlet.

Raised by Wm. R. Prince. Flowers pistillate. Plant very vigorous, foliage large, pale green, luxuriant; very valuable for the size and beauty of its fruit, and for its other qualities. Fruit very large; obtuse-cone or rounded, scarlet, handsome, juicy, and sprightly flavour; firm for market, productive. (Pr. Cat.)

Iowa.

Washington.

A Seedling of the Western Prairies. Flowers staminate; plant hardy, vigorous, and very productive. Fruit medium to large, roundish; light orange-scarlet. Flesh tender, juicy, very acid—an early variety.

Jenny Lind.

Raised by Isaac Fay, Cambridgeport, Mass. Flowers staminate; vines hardy, vigorous, and productive; an early variety. Fruit medium, conical. Colour rich crimson, glossy. Flesh rather firm, juicy, rich, sprightly, subacid.

Keen's Seedling.

Keen's Black Pine. Murphy's Child.

An old well-known English sort of the finest quality, but does not generally succeed here. Flowers staminate. Fruit large, roundish, often cockscomb-shaped, dark purplish-scarlet, surface polished. Flesh firm, with a rich high flavour.

Le Baron.

Raised by Wm. R. Prince. Fruit early, very large, obtuse-cone, dark scarlet, not showy, sweet, rich, melting, highest flavour of all the largest varieties; very productive for one of its sexuality, and continues a long time in bearing. Hermaphrodite. (Pr. Cat.)

McAvoy's Extra Red.

McAvoy's No 1.

Same origin as Superior. Flowers pistillate; vines hardy, vigorous, and very productive. Fruit large, irregularly oblate, generally necked. Colour deep scarlet. Flesh tender, juicy; flavour exceedingly acid. Excellent for preserving.

Methren Scarlet.

Methren Castle. Southampton Scarlet.
Warren's Seedling. Keen's Seedling, (*of some*)

An English variety of large sizes, roundish or cockscomb-shaped, rather dull scarlet. Flesh soft, and of indifferent flavour; pistillate.

Mayomensing.

Raised by Gerhard Schmitz, of Philidelphia. Pistillate, moderately vigorous and productive. Fruit medium to large, broadly conical, deep crimson; seeds numerous, deeply imbedded. Flesh red, rather firm, pretty briskly acid, much like Hudson, and may prove a good market variety.

Monroe Scarlet.

Raised by Ellwanger & Barry, Rochester, N. Y. Flowers pistillate, plant vigorous, and productive. Fruit rather large, roundish, light scarlet. Flesh tender, juicy, and of very good flavour.

Necked Pine.

Unique Prairie. Pine Apple.

An American variety, rather early, medium size, conical, with a neck; light scarlet. Flesh tender, sprightly, rather acid; productive. Pistillate.

Omer Pacha.

A foreign variety. Fruit large, roundish, or cockscomb-shaped. Colour bright red. Flesh solid, juicy, sweet; flavour resembling the old pine; strong habit and prolific. (Hov. Mag.)

Orange Prolific.

Raised by Ellwanger & Barry, Rochester, N. Y. Flowers pistillate; vines hardy, vigorous, very productive. Fruit large, roundish, sometimes oblate, often necked; deep crimson; seeds deeply imbedded. Flesh somewhat firm, with a brisk, rather acid flavour.

Pennsylvania.

Raised by Gerhard Schmitz, of Philadelphia. Pistillate, plant moderately vigorous and productive. Fruit medium to large, broadly conical, deep crimson. Flesh red, very similar to Mayomensing.

Prince's Climax.

Raised by Wm. R. Prince, Flushing, Long Island. Pistillate. Very large, conical, beautiful bright scarlet, a splendid fruit, good flavour, very productive, estimable; plant vigorous, with pale-green foliage. (Pr. Cat.)

Prince of Wales.

An English fruit of large size, with a bright deep red, glossy surface, and a delicate solid flesh, somewhat acid. (Hov. Mag.)

Prince's Magnate.

Raised by Wm. R. Prince. Fruit very large, rounded, and some berries compressed; scarlet; rich flavour, productive, highly valuable, a very distinct fruit; plant hardy and vigorous, with large broad foliage. Flowers pistillate. (Pr. Cat.)

Rival Hudson.

Raised by Mr. Burr, Columbus, Ohio, an improvement on the old Hudson; plant hardy and productive—Pistillate. Fruit medium, conical. Colour deep crimson. Flesh firm, with a brisk sub-acid flavour.

Ross's Phœnix.

Raised by Alexander Ross, Hudson, N. Y. Staminate; does not succeed unless with deep, rich soil, and good cultivation. Fruit large, generally cockscomb-shaped. Colour very dark red. Flesh firm and high flavoured.

Ruby.

English, medium size; bright coloured berry of a long ovate form, similar in shape to Scott's Seedling. Flesh juicy, rich, and excellent; not very hardy. (Hov. Mag.)

Scarlet Nonpareil.

English; very large, pretty regularly formed; roundish, conical; bright glossy red; saccharine, and rich, with a highly perfumed flavour. (Hov. Mag.)

Scarlet Cone.

Raised by Ellwanger & Barry, Rochester. N. Y. Pistillate; plant vigorous and very productive. Fruit large, perfectly conical, bright scarlet, beautiful. (Ell. & Barry's Cat.)

Scott's Seedling.

Raised by Mr. J. Scott, of Brighton, Mass. Flowers hermaphrodite. A beautiful, rather early, hardy and productive variety. Fruit rather large, elongated-conic, regular; light crimson or scarlet. Flesh pale-red, not very juicy, nor high flavoured.

Sir Harry.

A Seedling of the British Queen, impregnated with Keen's Seedling; considered the most valuable of all the English varieties. The berries are very large, of a thick cockscomb form, large calyx, and stout fruit stems. Colour deep dark red, or mulberry; glossy. Flesh red, solid, fine-grained, very juicy, and of the most delicious flavour; plants robust and great bearers. (Hov. Mag.)

Triumph de Grand.

From Belgium; plant vigorous, moderately productive. Fruit large, roundish, irregular; bright crimson. Flesh rather firm, juicy, and very good flavour.

Victoria.

Trollope's Victoria.

An English variety. Flowers staminate, plant hardy, vigorous, moderately productive; leaves large, thick, roundish, obtusely serrate. Fruit very large, nearly globular, regular. Calyx very large in a depression; colour light crimson. Flesh, light scarlet, tender, juicy, sweet, rich, with a somewhat peculiar aromatic flavour.

Vicomtesse Hericart de Thury.

A new French variety, vigorous, promising well. Flowers staminate. Fruit medium to large; conical, sometimes cockscomb-shaped. Colour bright scarlet. Flesh rather firm and rich; early and productive.

Western Queen.

Raised by Prof. Kirtland, Cleveland, Ohio. Pistillate. Vines hardy and productive. Fruit medium to large; roundish, conical. Colour rich glossy dark red. Flesh firm, juicy, sub-acid, sprightly and agreeable flavour. (Elliott.)

Wilson's Albany.

Raised by the late James Wilson, Albany, N. Y. Flowers pistillate. Vines hardy, vigorous, and very productive. Fruit large, broadly conic, pointed. Colour deep crimson. Flesh crimson, tender, with a brisk acid flavour; a promising variety.

Willey.

American; pistillate; vigorous, hardy, and very productive. Fruit medium, roundish. Colour deep crimson. Flesh firm, with a sprightly acid flavour; a good sort for preserving.

CLASS III.

Comprising such as are superseded by better sorts.

Black Roseberry. Thomp.

Fruit medium, nearly round, dark-red or purplish, pleasant favour, moderate bearer.

Brewer's Emperor.

English, staminate, medium size, ovate, dark-red, good flavour.

Cox's Seedling.

English, large, light-red, irregular shape, rather acid, late.

Columbus. (Burr's.)

American. Pistillate, large, roundish, hardy, productive, dark-red, tender and sweet.

Crescent Seedling.

Originated at New Orleans, said to be a perpetual bearer; but has not proved of any value with us.

Deptford Pine.

Myatt's Deptford Pine.

English. Staminate, large, wedge-shaped; bright glossy scarlet. Flesh solid, rich, sub-acid, shy bearer.

Downton.

Knight's Seedling.

English. Staminate, medium, with a neck, ovate, dark, purplish scarlet, good flavour, poor bearer.

Dundee.

A Scotch variety. Pistillate, medium, roundish oval, light scarlet, rich acid flavour, productive, late.

Duke of Kent.

Austrian scarlet.	Globe scarlet.
Nova Scotia scarlet.	Early prolific scarlet.

English, staminate. Fruit small, roundish, conical, bright scarlet; flavour sharp and good. Ripens early, which is its chief merit.

Eberlein's Seedling.

American, staminate, medium, conical, dark-scarlet, sweet flavour, early, productive.

Elenora. (Myatt's.)

English, staminate, very large, conical; crimson scarlet, acid, poor bearer.

Eliza. (Myatt's.)

English, staminate, large, irregular cockscomb, light glossy scarlet, rich, delicious flavour, rather late, shy bearer.

Eliza. (River's.)

English, staminate, large, obtuse-conical; glossy scarlet; excellent flavour, not productive.

GLOBE. (Myatt's.)

English, large, globular; rich scarlet, excellent flavour, moderately productive.

GROVE END SCARLET.

Atkinson's scarlet. Aberdeen Beehive.

English, staminate, medium, globular; bright scarlet; rather acid, early, productive.

HOOPER'S SEEDLING.

English, staminate, medium conical, deep glossy crimson, rich and sweet, not productive.

HUNTSMAN.

American, pistillate, large roundish, light scarlet, poor flavour, very productive.

KEEN'S PISTILLATE.

English, medium, conical, dark red, sprightly, acid flavour, not very productive.

LATE PROLIFIC.

American, pistillate, medium, late, light scarlet, good flavour, productive.

LA LIEGOISE.

French, staminate, large, bright scarlet, medium quality, unproductive.

LIZZIE RANDOLPH.

American, pistillate, medium, roundish, light crimson, good flavour, productive.

MAMMOUTH. (Myatt's.)

English, staminate, large, roundish, dark crimson, poor flavour, unproductive.

MELON.

Scotch, medium, roundish, dark colour; not of much value.

MOTTIER'S SEEDLING.

American, pistillate, rather large, very acid, productive.

Old Pine, or Carolina. Thomp.

Pine Apple.	Old Scarlet.
Carolina.	Blood Pine.
Old Scarlet Pine.	Grandiflora.

American, staminate, medium, conical with a neck; sometimes cockscomb-shaped, bright scarlet. Flesh solid, juicy and rich.

Prince Albert. (Myatt's.)

English, medium, conical, dark crimson, rich flavour, not productive.

Prolific. (Myatt's.)

English, staminate, large, conical, light glossy scarlet, rich flavour, unproductive.

Profuse Scarlet.

American, pistillate, medium, a little improvement on the old Early scarlet which it much resembles, productive.

Prince of Orleans.

Staminate, medium, roundish, dark colour, poor bearer.

Richardson's Early.

American, pistillate, medium, conical; dark crimson, early, good flavour, not productive.

Richardson's Late.

American, staminate, large, roundish, light-scarlet, good sprightly flavour, moderately productive.

Roseberry.

Aberdeen. Scotch Scarlet.

Foreign. Pistillate; rather small, ovate, dark scarlet, tolerable flavour. Poor bearer.

Scarlet Melting. (Burr's.)

American. Pistillate; medium, conical, light scarlet, showy; very tender, not rich; very productive.

Schiller.

German. Comes in a week after the usual season; requires high cultivation. Medium, conical, dark-shining red; rich, subacid flavour; not productive.

SWAINSTONE'S SEEDLING. Thomp.

English. Staminate; large, ovate, beautiful light glossy scarlet, and good flavour: bears only very moderate crops.

WILMOT'S SUPERB. Thomp.

English. Staminate; large, roundish, sometimes cockscomb-shaped; pale scarlet, polished. Flesh coarse, not rich; unproductive.

CLASS III.

Alpine and Wood Strawberries.

RED WOOD. Thomp.

English Red Wood. Common Rouge.
Des Bois à Fruit Rouge. Newland's Mammouth.
Stoddard's Alpine.

This is the wild strawberry of Europe (F. vesca), long more commonly cultivated in our gardens than any other sort, and still, perhaps, the easiest of cultivation, and one of the most desirable kinds. It always bears abundantly; and though the fruit is small, yet it is produced for a much longer time than that of the other classes of strawberries, and is very sweet and delicate in flavour. Flowers always perfect.

Fruit red, small, roundish-ovate. Seeds set even with the surface of the fruit. It ripens at medium season.

WHITE WOOD. Thomp.

This is precisely similar in all respects to the foregoing, except in its colour, which is white. It ripens at the same time.

RED ALPINE. Thomp.

Red Monthly Strawberry. Des Alpes à Fruit Rouge.
Des Alpes de Tous les Mois à Fruit Rouge, &c.

The common Red Alpine, or monthly-bearing strawberry, is a native of the Alps, and succeeds well with very trifling care in this country. The Alpines always continue bearing from June till November; but a very fine autumnal crop is secured by cutting off all the spring blossoms. The plant resembles the Red Wood, and the fruit is similar in flavour and colour, but long-conical in form. Flowers always perfect.

WHITE ALPINE. Thomp.

White Monthly. Des Alpes à Fruit Blanc.
Des Alpes de Tous les Mois à Fruit Blanc, &c.

Precisely similar to the Red Alpine, except in colour. Fruit conical, white.

Red-Bush Alpine. Thomp.

Rouisson. Monthly, without Runners.
Des Alpes sans Filets. Commun sans Filets.

The Bush Alpines are remarkable among strawberries for their total destitution of runners. Hence they always grow in neat, compact bunches, and are preferred by many persons for edging beds in the kitchen garden. The fruit is conical, and the whole plant, otherwise, is quite similar to common Alpines. We think it one of the most desirable sorts, and it bears abundantly through the whole season. The Bush Alpines were first introduced into the United States by the late Andrew Parmentier, of Brooklyn. To propagate them the roots are divided. Flowers always perfect.

White-Bush Alpine. Thomp.

White Monthly, without Runners.
Buisson des Alps Blanc, &c.

This differs from the foregoing only in the colour of the fruit, which is conical and white.

CLASS IV.

*Hautbois Strawberries.**

Peabody's New Hautbois. (H.)

This new variety originated with Charles A. Peabody, Columbus, Ga., who says it is vigorous and hardy, bearing with impunity great degrees of heat and cold. Fruit of the largest size. Form irregular. Flesh firm, sweet, melting, juicy, with a pine-apple flavour. When fully ripe, the colour is a rich, deep crimson. Not yet proved at the North.

Prolific or Conical. Thomp.

Musk Hautbois. Double Bearing.
French Musk Hautbois. Caperon Royal.
Caperon Hermaphrodite.

This is a capital variety. Its strong habit and very large, usually perfect flowers, borne high above the leaves, distinguish it. The fruit is very large and fine, dark-coloured, with a peculiarly rich, slightly musky flavour. It bears most abundant crops. Fruit large, conical, light purple in the shade, dark,

* *Haut-bois*, literally *high-wood*, that is, wood strawberries with high leaves and fruit stalks.

blackish purple in the sun; seeds prominent; flesh rather firm, sweet, and excellent. It ripens tolerably early, and sometimes gives a second crop. Staminate.

The COMMON HAUTBOIS, GLOBE, LARGE FLAT, &c., are scarcely worthy of cultivation here.

CLASS V.

Chili Strawberries.

TRUE CHILI. Thomp.

Patagonian. Greenwell's New Giant.
Greenwell's French.

Fruit very large, bluntly conical or ovate, dull-red; seeds dark brown, projecting; flesh very firm, hollow-cored, of a rather indifferent, sweet flavour. Ripens late.

WILMOT'S SUPERB. Thomp.

An English seedling, raised from the foregoing; very showy in size, but indifferent fruit and a poor bearer. Fruit roundish, sometimes cockscomb-shaped; surface pale scarlet, polished; seeds projecting; flesh hollow, and of only tolerable flavour. Medium season.

YELLOW CHILI. Thomp.

Fruit very large, irregular in form, yellow, with a brown cheek; seeds slightly imbedded. Flesh very firm, rather rich.

CLASS VI.

Green Strawberries.

[Little valued or cultivated, being more curious than good. They resemble, in general appearance, the Wood strawberries. Leaves light green, much plaited. Flesh solid. There are several sorts grown by the French, but the following is the only one of any value, and it is a shy bearer.]

GREEN STRAWBERRY. Thomp.

Green Pine. Fraisier Vert.
Green Wood. Powdered Pine.
Green Alpine.

Fruit small, roundish, or depressed, whitish-green, and at maturity tinged with reddish-brown on the sunny side. Flesh solid, greenish, very juicy, with a peculiar, rich, pine-apple flavour. Ripens late.

CHAPTER XXVII.

The Melon.

Cucumis Melo, L. *Cucurbitaceæ*, of botanists.
Melon, of the French; *Melona*, German; *Meleon*, Dutch; *Melone*, Italian; and *Melon*, Spanish.

The Melon (or musk melon) is the richest and most luscious of all herbaceous fruits. The plant which bears this fruit is a trailing annual, supposed to be a native of Persia, but which has been so long in cultivation in all warm climates that it is quite doubtful which is its native country.

The climate of the Middle and Southern States is remarkably favourable for it—indeed far more so than that of England, France, or any of the temperate portions of Europe. Consequently melons are raised as field crops by market gardeners, and in the month of August the finest citrons or green-fleshed melons may be seen in the markets of New York and Philadelphia in immense quantities, so abundant in most seasons as frequently to be sold at half a dollar per basket, containing nearly a bushel of the fruit. The warm dry soils of Long Island and New Jersey, are peculiarly favourable to the growth of melons, and even at low prices the product is so large that this crop is one of the most profitable.

Culture.—The culture of the melon is very easy in all, except the most northern portions of the United States. Early in May, a piece of rich, light soil is selected, well manured and thoroughly dug, or prepared by deep ploughing and harrowing. Hills are then marked out, six feet apart each way. These hills are prepared by digging a foot deep, and two feet across, which are filled half full of good, well-rotted manure. Upon the latter are thrown three or four inches of soil, and both manure and soil are then well mixed together. More soil, well pulverized, is now thrown over the top, so as to complete the hill, making it three inches higher than the surface. Upon this, plant eight or ten grains of seed, covering them about half an inch deep.

When the plants have made two rough leaves, thin them so as to leave but two or three to each hill. Draw the earth nicely around the base of the plants with the hoe. And to prevent the attack of the *striped cucumber bug* (*Galereuca vittata*), the great enemy of the melon and cucumber plants, sprinkle the soil just beneath the plants, as soon as they come up, with *guano*. The pungent smell of this manure renders it an effectual protection both against this insect and the *cucumber flea beetle*, a lit-

tle black, jumping insect, that also rapidly devours its leaves in some districts; while it also gives the young plants a fine start in the early part of the season.

As soon as the runners show the first blossom buds, stop them, by pinching out the bud at the extremities. This will cause an increased production of lateral shoots, and add to the size of the fruit. Nothing more is necessary but to keep the surface free from weeds, and to stir the soil lightly with the hoe, in field culture. In gardens, thinning the fruit, and placing bits of slate, or blackened shingles under each fruit, improve its size and flavour.

To retain a fine sort of melon in perfection, it should be grown at some distance from any other sort, or even from any of the cucumber family, otherwise the seeds of the next generation of fruit will be spoiled by the mixture of the pollen.

Varieties.—More than seventy varieties are enumerated in the catalogue of the London Horticultural Society's garden, but many of these do not succeed without extra care in this country, which their quality is not found to repay. Indeed what is popularly known as the *Citron* melon, one of the finest of the green fleshed class, is the greatest favourite with all American gardeners. It is high-flavoured, uniformly good, very productive, and in all respects adapted to the climate.

Melons may be divided into three classes—the *Green-Fleshed*, as the citron, and nutmeg; *Yellow-Fleshed*, as the cantelopes; and *Persian Melons*, with very thin skins and the most melting honey-like flesh, of delicious flavour. The Green-Fleshed melons are of very rich flavour and roundish form; the Yellow-Fleshed are large, usually oval, and of second rate flavour: the Persian melon, the finest of all, but yet scarce with us, requiring much care in cultivation, and a fine warm season.

CLASS I.

Green-Fleshed Melons.

Citron.—This is much the finest melon for general culture. Fruit rather small, roundish, flattened at the end, regularly ribbed and thickly netted; skin deep green, becoming pale greenish yellow at maturity; rind moderately thick, flesh green, firm, rich, and high flavoured. Ripens pretty early and bears a long time.

Nutmeg.—An old variety, often seen impure, but when in perfection, very melting and excellent. Fruit as large again as the foregoing, roundish oval; skin very thickly netted, pale green, slightly but distinctly ribbed; rind rather thin, flesh pale green, very melting, sweet and good, with a high musky flavour. Medium season.

Franklin's Green-Fleshed.—Very excellent and productive. Fruit rather large, roundish; skin very slightly netted, greenish yellow when ripe; flesh green, exceedingly tender and rich.

Improved Green-Flesh.—A new English variety, of exquisite flavour. Fruit rather large, roundish, not ribbed, slightly netted; skin thin, pale yellow at maturity; flesh thick, green, and of very delicious flavour.

Beechwood.—One of the very best of this class. Fruit of medium size, oval, netted, skin greenish yellow; flesh pale green, rich, and very sugary. Ripens early.

Skillman's Fine Netted.—Earliest of the green-fleshed melons, small, rough-netted, flattened at the ends, flesh green, very thick, firm, sugary, and of the most delicious flavour.

Pine Apple.—A dark green oval melon, of medium size, rough-netted; flesh thick, firm, juicy, and sweet.

CLASS II.

Yellow, or Orange-Fleshed Melons.

Early Canteloup.—Early and productive—its chief merits. Fruit small, nearly round, skin thin, smooth, ribbed nearly white; flesh orange colour, of sweet and pleasant flavour. The first melon ripe.

Netted Canteloup.—The best flavoured of this class, often quite rich. Fruit rather small, round; skin pale green, closely covered with net-work; flesh dark reddish-orange, flavour sugary and rich.

Black Rock (or *Rock Canteloup*). A very large melon frequently weighing 8 or 10 pounds, and of pretty good flavour. Fruit round, but flattened at both ends, covered with knobs or carbuncles; skin dark green, thick; flesh salmon coloured, sweet, but not rich. Ripens rather late.

Christiana.—A yellow fleshed variety which originated in Massachusetts. It is a week earlier than citron but not equal to it; nearly round, dull yellowish green skin, of very good quality, but valued chiefly for its earliness.

CLASS III.

Persian Melons.

Keising.—One of the very finest and most delicate flavoured of melons. Fruit rather large, egg-shaped, skin pale lemon colour, regularly netted all over. Flesh nearly white, high flavoured, and "texture like that of a ripe Beurré pear"

GREEN HOOSAINEE.—One of the best for this climate, and bears well. Fruit egg-shaped, of medium size, skin light green, netted. Flesh pale greenish white, tender and abounding with sugary, highly perfumed juice. Seeds large.

SWEET ISPAHAN.—The most delicious of all melons. Fruit large oval; skin nearly smooth, deep sulphur colour. Flesh greenish white, unusually thick, crisp, and of the richest and most sugary flavour. Ripens rather late.

LARGE GERMEK.—Early, good bearer, and very excellent. Fruit of large size, roundish, flattened at the ends, and ribbed, skin green, closely netted. Flesh greenish, firm, juicy, rich and high flavoured.

Besides the foregoing there are *Winter Melons* from the South of Europe, very commonly cultivated in Spain, which, if suspended in a dry room, may be kept till winter. The GREEN VALENCIA and the DAMPSHA are the three principal sorts; they are oval, skin netted, flesh white, sugary and good.

CHAPTER XXVIII.

THE WATER-MELON.

Cucurbita citrullus, L. *Cucurbitaceæ*, of botanists.
Pasteur, of the French; *Wasser Melone*, German; *Cocomero*, Italian.

THE Water-Melon is a very popular and generally cultivated fruit in this country. The vine is a training annual of the most vigorous growth, and the fruit is very large, smooth, and green, with a red or yellow core. Though far inferior to the melon in richness, its abundant, cooling juice renders it very grateful and refreshing in our hot midsummer days. Immense fields of the water-melon are raised in New Jersey and Long Island, and their culture is very easy throughout all the middle and southern states.

The cultivation of the water-melon is precisely similar to that of the melon, except that the hills must be eight feet apart. The finest crops we have ever seen, were grown upon old pieces of rich meadow land, the sod well turned under with the plough at the last of April, and the melons planted at once.

The following are its best varieties.

1. IMPERIAL.—A remarkably fine flavoured and very productive sort, from the Mediterranean. Fruit of medium size, nearly round. Skin pale green and white, marbled, rind remarkably thin, flesh solid to the centre, light red, crisp, rich, and high flavoured. Seeds quite small, reddish brown.

2. CAROLINA.—The large common variety. Fruit very large,

oblong, skin dark green and white marbled, rind thick. Flesh deep red, hollow at the centre, sweet and good, seeds large black.

There is also a sub-variety with pale yellow flesh and white seeds.

3. Spanish.—A rich and very excellent water-melon. Fruit large, oblong. Skin very dark, blackish-green, slightly marbled, rind moderately thick. Flesh red, solid, rich, and very sweet.

The Citron Water-Melon is a small, round, pale green, marbled sort, ripening late, and esteemed by many for preserving.

4. Souter.

Large, oblong, sometimes roundish. Skin peculiarly marked with greyish dots, and pale and dark green stripes. Rind half an inch thick. Flesh deep red to the centre; flavour sugary and delicious, of the "best" quality; seed cream white, with a faint russet stripe around the edge; very productive.

Originated in Sumpter District Co., S. Carolina. (W. D. Brinckle, Ms.)

5. Clarendon, or Dark Speckled.

Large, oblong, skin mottled grey, with dark green longitudinal stripes; rind half an inch thick. Flesh scarlet to the centre, with a sugary and exquisite flavour, "best" quality. Seeds yellow, with a black stripe around the edge, and from one to three black spots on each side; the form and number corresponding on the two sides.

Originated in Clarendon Co., South Carolina. (W. D. Brinckle, Ms.)

6. Bradford.

Large, oblong, skin usually dark green with grey longitudinal stripes, mottled and streaked with green; rind half an inch thick. Flesh red to the centre, with a fine sugary flavour, of the best quality.

Originated in South Carolina. (W. D. Brinckle, Ms.)

7. Ravenscroft.

Large, oblong, dark green, faintly striped, and marked with lighter green. Rind half an inch thick. Flesh red to the centre, with a delicious sugary flavour, of the "best" quality. Seeds cream colour, having a brown stripe around the edge.

Originated with Col. A. G. Sumner, of South Carolina. (W. D. Brinckle, Ms.)

8. ODELL'S LARGE WHITE.

Very large, round, skin grey, with green net-work. Rind three quarters of an inch thick. Flesh pale red, of a "very good" quality. Keeps a long time after being gathered.

Originated with Col. A. G. Sumner, South Carolina. (W. D. Brinckle, Ms.)

ORANGE.—Peculiar for the division of its flesh from the rind, medium size, roundish oval, light green, with shades of darker green; rind half an inch thick. Flesh red, not very solid, of good quality, but not equal to Mountain Sweet and Imperial.

MOUNTAIN SPROUT.—Large, long, oval, striped with light and dark green. Flesh scarlet, a little open in the centre. Rind thin, seeds light fawn colour, one of the best.

MOUNTAIN SWEET.—Similar to the above, except it often has a man-melon neck. Flesh rather more solid, and of excellent flavour. This is grown extensively for the markets.

APPLE SEEDED.—Medium roundish, slightly oval, dark rich green; rind thin. Flesh scarlet, crisp, sweet, and very good. Early and prolific, seeds very small, dull reddish brown.

ICE CREAM.—A fine variety, large, round, early and prolific. Skin very light green. Rind rather more than half an inch thick. Flesh white, crisp, sugary, and excellent; seeds white.

CHAPTER XXIX.

THE ORANGE FAMILY.

Citrus, L. *Aurantiaceæ*, of Botanists.

THE Orange family includes the common orange (*Citrus aurantium*); the Lemon (*C. limonum*); the Lime (*C. limetta*); the Shaddock (*C. decumana*); and the Citron (*C. Medica*); all different species, with the same general habit.

The Orange, a native of Asia, is the most attractive and beautiful of fruit trees, with its rich, dark evergreen foliage and its golden fruit; and it may well therefore enjoy the reputation of being the golden apple of the Hesperides. When to these charms we add the delicious fragrance of the blossoms, surpassing that of any other fruit tree, it must be conceded that, though the orange must yield in flavour to some other fruits, yet, on the whole, nothing surpasses an orange grove, or orchard, in its combination of attractions—rich verdure, the delicious aroma of its flowers, and the great beauty of its fruit.

The south of Europe, China, and the West Indies, furnish the

largest supplies of this fruit. But it has, for a considerable time, been cultivated pretty largely in Florida, and the orange groves of St. Augustine yield large and profitable crops. Indeed the cultivation may be extended over a considerable portion of that part of the Union bordering on the Gulf of Mexico; and the southern part of Louisiana, and part of Texas, are highly favourable to orange plantations. The bitter orange has become quite naturalized in parts of Florida, the so-called wild orange seedlings furnishing a stock much more hardy than those produced by sowing the imported seeds. By continually sowing the seed of these wild oranges, they will furnish stocks suited to almost all the Southern States, which will, in time, render the better kinds grafted upon them comparatively hardy.

North of the latitude, where, in this country, the orange can be grown in groves or orchards, it may still be profitably cultivated with partial protection. The injury the trees suffer from severe winters, arises not from their freezing—for they will bear, without injury, severe frost—but from the rupture of sap-vessels by the sudden thawing. A mere shed, or covering of boards, will guard against all this mischief. Accordingly, towards the south of Europe, where the climate is pretty severe, the orange is grown in rows against stone-walls, or banks, in terraced gardens, or trained loosely against a sheltered trellis; and at the approach of winter they are covered with a slight, moveable shed, or frame of boards. In mild weather, the sliding-doors are opened, and air is admitted freely—if very severe, a few pots of charcoal are placed within the inclosure. This covering remains over them four or five months, and in this way the orange may be grown as far north as Baltimore.

Soil and Culture. The best soil for the orange is a deep, rich loam. In propagating them, sow, early in the spring, the seeds of the naturalized, or wild bitter orange of Florida, which gives much the hardiest stock. They may be budded in the nursery row the same season, or the next, and for this purpose the earliest time at which the operation can be performed (the wood of the buds being sufficiently firm), the greater the success. Whip, or splice-grafting, may also be resorted to early in the spring. Only the hardiest sorts should be chosen for orchards or groves, the more delicate ones can be grown easily with slight covering in winter. Fifty feet is the maximum height of the orange in its native country, but it rarely forms in Florida more than a compact, low tree of twenty feet. It is better, therefore, to plant them so near as partially to shade the surface of the ground.

Insects. The orange plantations of Florida have suffered very severely within a few years from the attacks of the scale insect (*Coccus Hisperidum*), which, in some cases, has spread over whole plantations and gradually destroyed all the trees.

It is the same small, oval, brownish insect, so common in our greenhouses, which adheres closely to the bark and under-side of the leaves. All efforts to subdue it in Florida have been nearly unavailing.

A specific, however, against this insect has lately been discovered in England. It is the use of the common *Chamomile*. It is stated that merely hanging up bunches of fresh chamomile herb in the branches destroys the scaled insect, and that cultivating the plants at the roots of the trees is an effectual preventive to the attacks of this insect. Where the bark and leaves are much infested, we recommend the stem and branches to be well washed with an infusion of fresh chamomile in water, and the foliage to be well syringed with the same. Repeating this once or twice will probably effectually rid the trees of the scaled insect.

Another very excellent remedy for this and all other insects that infest the orange, is the *gas liquor*, of the gas works, largely diluted with water, and showered over the leaves with a syringe or engine. As this liquor varies in strength and is sometimes very strongly impregnated with ammonia, it is difficult to give a rule for its dilution. The safest way is to mix some, and apply it at first to the leaves of tender plants; if too strong, it will injure them; if properly diluted, it promotes vegetation, and destroys all insects.

Varieties. From among the great number of names that figure in the European catalogues, we select a few of those really deserving attention in each class of this fruit.

I. The Orange.

The Orange (*Oranger*, French; *Pomeranze*, German; *Arancio*, Italian; and *Naranja*, Spanish), is, on the whole, the finest tree of the genus. Its dark-green leaves have winged foot-stalks, its fruit is round, with an orange-coloured skin. It is one of the longest lived fruit trees, as an instance of which we may quote the celebrated tree at Versailles, called "the Grand Bourbon," which was sown in 1421, and is at the present time in existence, one of the largest and finest trees in France.

The fruit of the orange is universally esteemed in its ripe state. The bitter orange is used for marmalades; the green fruits, even when as small as peas, are preserved, and used in various ways in confectionery; the rind and pulp are used in cooking; and the orange flowers distilled, give the orange flower water, so highly esteemed as a perfume, and in cookery.

Besides the Common Sweet Orange, the most esteemed sorts are the Maltese and the Blood-Red, both of excellent flavour, with *red* pulp. The Mandarin orange is a small, flattened

fruit, with a thin rind separating very easily from the pulp, frequently parting from it of itself, and leaving a partially hollow space. It comes from China, and is called there the Mandarin, or noble orange, from its excellent quality. The flesh is dark orange coloured, juicy, and very rich.

The St. Michael's orange is a small fruit, the skin pale yellow, the rind thin, the pulp often seedless, juicy, and lusciously sweet. It is considered the most delicious of all oranges, and the tree is a most abundant bearer.

The Seville, or bitter orange, is the hardiest of all the varieties, enduring very hard frosts without injury. It has the largest and most fragrant flowers: the pulp, however, is bitter and sharp, and is valued chiefly for marmalades. The *Double Bigarde* is a French variety of this species, with fine double blossoms.

The Bergamot orange has small flowers, and pear-shaped fruit. The leaves, flowers, and fruit, being peculiarly fragrant, it is highly esteemed by the perfumer, and yields the bergamot essences. "The rind, first dried and then moistened, is pressed in moulds into small boxes for holding sweetmeats, to which it communicates a bergamot flavour."

Besides the above, the *Fingered*, *Sweet-skinned*, *Pear-shaped*, and *Ribbed* oranges, are the most striking sorts—all chiefly cultivated by curious amateurs.

II.—LEMONS.

The Lemon (*Limonier*, of the French and German; *Limone*, Italian; *Limon*, Spanish) has longer, paler leaves than the orange, the footstalks of which are naked or wingless; the flowers tinged with red externally, and the fruit is oblong, pale yellow, with a swollen point, and usually an acid pulp. Its principal use is in making lemonade, punch, and other cooling acid drinks.

Besides the common Lemon, there is an Italian variety, called the Sweet Lemon, the pulp of which is sweet and good.

III.—THE LIME.

The Lime (*Limettier*, of the French) differs from the Lemon by its smaller, entirely white flowers, and small, roundish, pale yellow fruit, with a slight protuberance at the end. The acid, though sharp, is scarcely so rich and high as that of the lemon, and is used for the same purposes. The green fruit is more esteemed than any other for preserving. The Italians cultivate a curiously marked variety called *Pomo d'Adamo*, in which Adam is said to have left the marks of his teeth.

IV.—THE CITRON.

THE Citron (Cidratier of the French; *Citronier*, German; *Cedrato*, Italian) is one of the finest growing trees of this family, with large, oblong, wingless leaves, and flowers tinged with purple externally. The fruit, shaped like that of the lemon, is much larger, of a yellow colour, warted and furrowed externally. The rind is very fragrant, and very thick, the pulp is subacid, and is used in the same way as that of the lemon. It is chiefly valued however for the rich sweetmeat or preserve, called *citron*, made from the rind.

The MADRAS citron is considered the largest and best variety.

V.—THE SHADDOCK.

THE Shaddock (*Pampelmous*, French; *Arancio massimo*, Italian) may be considered a monstrous orange, with a comparatively tasteless pulp. It is a native of China and Japan, and has its name from Dr. Shaddock, who first carried it to the West Indies. The leaves are winged, like those of the orange, the flowers white, and the fruit globular. Its size is very large, as it often weighs six or eight pounds. The pulp is sweetish, or subacid, and the juice is rather refreshing. It is, however, more showy than useful, and certainly makes a magnificent appearance in a collection of tropical fruits.*

CHAPTER XXX.

THE OLIVE.

Olea Europea, L.; *Oleinæ*, of botanists.
Olivier, of the French; *Oehlbaum*, German; *Ulivo*, Italian; *Olivo*, Spanish.

THE Olive, which, as Loudon justly remarks, furnishes, in its invaluable oil, the cream and butter of Spain and Italy, will undoubtedly one day be largely cultivated in our Southern States. Already small plantations of it have been formed by a few spirited gentlemen in Georgia and Mississippi, and its adaptation to the Southern parts of the Union near the sea-coast,

* To those of our readers who desire to pursue this branch of the subject, we recommend that splendid work, the *Histoire Naturelle des Orangers*, of Risso and Poiteau, with superb coloured plates of every variety. Paris, folio, 1718.

tested. The apathy of Southern planters generally, respecting all products but cotton and rice, is the only reason for the tardy manner in which this and other valuable trees are introduced into cultivation there.

The uses and value of the olive-oil are still comparatively unknown in this country. In the South of Europe it is more valuable than bread, as, to say nothing of its wholesomeness, it enters into every kind of cookery, and renders so large a quantity of vegetable food fit for use. A few olive trees will serve for the support of an entire family, who would starve on what could otherwise be raised on the same surface of soil; and dry crevices of rocks, and almost otherwise barren soils in the deserts, when planted with this tree, become flourishing and valuable places of habitation.

The olive is a native of the temperate sea-coast ridges of Asia and Africa; but it has, time out of mind, been cultivated in the South of Europe. It is a low evergreen tree, scarcely twenty feet high, its head spreading, and clothed with stiff, narrow, bluish green leaves. Its dark green or black fruit is oval, the hard fleshy pulp enclosing a stone. In a pickled state the fruit is highly esteemed. The pickles are made by steeping the unripe olives in ley water, after which they are washed and bottled in salt and water, to which is often added fennel, or some kind of spice. The oil is made by crushing the fruit to a paste, pressing it through a coarse hempen bag, into hot water, from the surface of which the oil is skimmed off. The best oil is made from the pulp alone: when the stone also is crushed, it is inferiour.

Propagation and Culture.—A very common mode of propagating the olive in Italy, is by means of the *uovoli* (little eggs). These are knots or tumours, which form in considerable numbers on the bark of the trunk, and are easily detached by girdling them with a pen-knife, the mother plant suffering no injury. They are planted in the soil like bulbs, an inch or so deep, when they take root and form new trees. It is also propagated by cuttings and seeds. The seedlings form the strongest and thriftiest trees; they are frequently some months in vegetating, and should therefore be buried an inch deep in the soil as soon as ripe.

The wild American olive (*Olea Americana*, L.) or Devil-wood, a tree that grows more or less abundantly as far north as Virginia, will undoubtedly prove a good stock, on which to engraft the European olive. It is of a hardier habit, and though worthless itself, may become valuable in this way.

The olive-tree commences bearing five or six years after being planted. Its ordinary crop is fifteen or twenty pounds of oil per annum, and the regularity of its crop, as well as the great age to which it lives, renders an olive plantation one of the most

valuable in the world. With respect to its longevity, we may remark, that there is a celebrated plantation near Terni, in Italy, more than five miles in extent, which, there is every reason for believing, has existed since the time of Pliny.

The olive is not a very tender tree. It will thrive farther north than the orange. The very best sites for it are limestone ridges, and dry, crumbling, limestone, rocky regions always produce the finest oil. The tree, however, thrives most luxuriantly in deep, rich, clayey loams, which should be rendered more suitable by using air-slacked lime as manure. It requires comparatively little pruning or care, when a plantation is once fairly established.

Varieties.—There are numberless varieties enumerated in the French catalogues, but only a few of them are worth the attention of any but the curious collector. The common European olive is, on the whole, much the best for general cultivation, yielding the most certain and abundant crops.

The sub-variety most cultivated in France is the Long-leaved Olive (*Olea, e. longifolia*), with larger and longer leaves; the fruit nearly of the same size as that of the common olive.

The favourite sort in Spain is the Broad-leaved Olive (*Olea e. latifolia*). Its fruit is nearly double the size of the common olive, and yields an abundance of oil, but the latter is so strong in flavour as to be more relished by the Spaniards than by strangers.

The Olivier a Fruit Arrondi (*Olea spherica*, N. Duh.) is a hardy French variety, which, in a moist, rich soil, yields most abundant crops of fine oil.

The Olivier Pleureur (*Olea eranimorpha*, N. Duh.), or weeping olive, is one of the largest and finest trees. Its branches are pendant, its fruit excellent, and the oil pure and abundant. It is a very hardy sort, and grows best in damp valleys.

The Olivier Picholine (*Olea oblonga*, N. Duh.) yields the fruit most esteemed for pickling. It grows quite readily in any tolerable soil, and is one of the hardiest varieties.

There are two varieties of the olive, which are said to have been found not long since in the Crimea, lats. 45° and 46°, which bear abundant crops of fine fruit, and the trees endure a temperature in winter of zero of Fahrenheit. These sorts have not yet been introduced into this country; and though it is a desideratum to obtain them and test them at the South, yet it is not unlikely that, in common with many trees similarly reported, they may prove little different from the common olive.

CHAPTER XXXI.

THE POMEGRANATE.

Punica granatum, L.; *Granatacea* of Botanists.
Grenadier, of the French; *Granatenbaum*, German; *Melagrano*, Italian; *Granado*, Spanish.

This unique fruit, the most singularly beautiful one that ever appears at the dessert, is a native of China and the South of Europe. It grows and bears very readily in this country, as far north as Maryland and the Ohio River, though the fruit does not always mature well north of Carolina, except in sheltered places. It is even hardy enough to stand the winter here, and will bear very good fruit, if trained as an espalier, and protected in winter.

The fruit is as large as an apple. Its skin is hard and leathery, of a yellowish-orange colour, with a rich red cheek. It is crowned in a peculiar manner with the large calyx, which remains and increases in size after the flower has fallen. There is a pretty bit of mythological history told by Rapin, the French poet, respecting this fruit. Bacchus once beguiled a lovely Scythian girl, whose head had been previously turned by the diviners having prophesied that she would some day wear a crown, and who therefore lent a willing ear to his suit. The fickle god, however, not long after abandoned her, when she soon died of grief. Touched at last, he metamorphosed her into a pomegranate tree, and placed on the summit of its fruit the crown (calyx), which he had denied to his mistress while living.

The fruit of the common pomegranate is acid, but the cultivated variety bears fruit of very agreeable, sweet flavour. The interior of the fruit consists of seeds enveloped in pulp, much like those of the gooseberry, but arranged in compartments, and of the size and colour of red currants. Medicinally, it is cooling and much esteemed, like the orange, in fevers and inflammatory disorders.

The tree is of low growth, from twelve to twenty feet, with numerous slender, twiggy branches, and is very ornamental in garden scenery, either when clad with its fine scarlet flowers or decked with fruit, which hangs and grows all summer, and does not ripen till pretty late in the season. It is well worthy of a choice sheltered place at the north, on a wall or espalier rail, where it can be slightly protected with mats or straw in winter; and it deserves to be much more popular than it now is in every

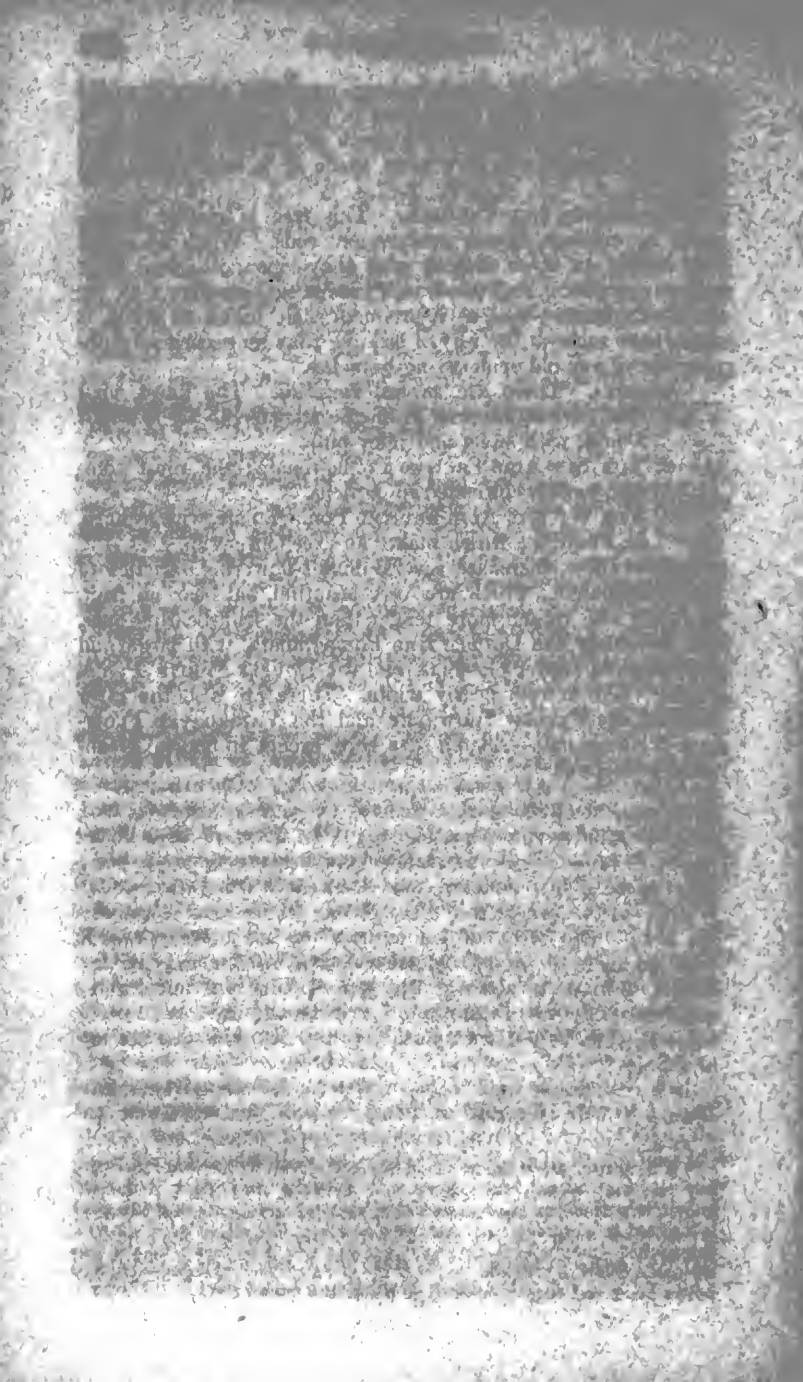
southern garden. If raised in large quantities there, it would become a valuable fruit for sending to the northern cities, as it is now constantly sent from the south of Europe to Paris and London. Hedges are very often made of it near Genoa and Nice.

Propagation and Culture. This tree is readily propagated by cuttings, layers, suckers, or seeds. When by seeds, they should be sown directly after they ripen, otherwise they seldom vegetate. Any good, rich garden soil answers well for the Pomegranate; and, as it produces little excess of wood, it needs little more in the way of pruning than an occasional thinning out of any old or decaying branches.

Varieties. There are several varieties. The finest, viz.:

1. The Sweet-Fruited Pomegranate (*Grenadier à Fruit Doux*), with sweet and juicy pulp.
2. The Sub-Acid Fruited Pomegranate; the most common variety cultivated in gardens.
3. The Wild, or Acid-Fruited Pomegranate, with a sharp, acid flavour; which makes an excellent syrup.

Besides these, there are several double-flowering varieties of the Pomegranate, which are very beautiful, but bear no fruit. They are also rather more tender than the fruit-bearing ones. The finest are the Double Red Pomegranate, with large and very splendid scarlet blossoms, and the Double White Pomegranate, with flowers nearly white. There are also the rarer varieties, the Yellow Flowered and the Variegated Flowered Pomegranate—seldom seen here, except in choice greenhouse collections.



APPENDIX.

REMARKS ON THE DURATION OF VARIETIES OF FRUIT TREES.

It was, for a long time, the popular notion that when a good variety of fruit was once originated from seed, it might be continued by grafting and budding, for ever,—or, at least, as some old parchment deeds pithily gave tenure of land—"as long as grass grows, and water runs."

About fourteen years ago, however, Thomas Andrew Knight, the distinguished President of the Horticultural Society of London, published an Essay in its Transactions, tending entirely to overthrow this opinion, and to establish the doctrine that all varieties are of very limited duration.

The theory advanced by Mr. Knight is as follows: All the constitutional vigour or properties possessed by any variety of fruit are shared at the same time by all the plants that can be made from the buds of that variety, whether by grafting, budding, or other modes of propagating. In simpler terms, all the plants or trees of any particular kind of pear or apple being only parts of one original tree, itself of limited duration, it follows, as the parent tree dies, all the others must soon after die also. "No trees, of any variety," to use his own words, "can be made to produce blossom or fruit till the original tree of that variety has attained the age of puberty;* and, under ordinary modes of propagation, by grafts and buds, all become subject, at no very distant period, to the debilities and diseases of old age."

It is remarkable that such a theory as this should have been offered by Mr. Knight, to whose careful investigations the

* This part of the doctrine has of late been most distinctly refuted, and any one may repeat the experiment. Seedling fruit trees, it is well-known, are usually several years before they produce fruit. But if a graft is inserted on a bearing tree, and after it makes one season's fair growth, the grafted shoot is bent directly down and tied there, with its point to the stock below, it will, the next season—the sap being checked—produce flower-buds, and begin to bear, long before the parent tree.

science of modern horticulture is so deeply indebted—as, however common it is to see the apparent local decline of certain sorts of fruit, yet it is a familiar fact that many sorts have also been continued a far greater length of time than the life of any one parent tree. Still the doctrine has found supporters abroad, and at least one hearty advocate in this country.

Mr. Kenrick, in his new American Orchardist, adopts this doctrine, and in speaking of Pears, says: "I shall, in the following pages, designate some of these in the class of old varieties, once the finest of all old pears, whose duration we had hoped, but in vain, to perpetuate. For, except in certain sections of the city, and some very few and highly favoured situations in the country around, they (the old sorts) have become either so uncertain in their bearing—so barren—so unproductive—or so miserably blighted—so mortally diseased—that they are no longer to be trusted; they are no longer what they once were with us, and what many of them are still described to be by most foreign writers."

Mr. Kenrick accordingly arranges in separate classes the *Old* and *New* Pears; and while he praises the latter, he can hardly find epithets sufficiently severe to bestow on the former poor unfortunates. Of the Doyenné he says: "This most eminent of all Pears has now become an outcast, intolerable even to sight;" of the Brown Beurré, "once the best of all Pears—now become an outcast." The St. Germain "has long since become an abandoned variety," &c., &c.

Many persons have, therefore, supposing that these delicious varieties had really and quietly given up the ghost, made no more inquiries after them, and only ordered from the nurseries the new varieties. And this, not always, as they have confessed to us, without some lingering feeling of regret at thus abandoning old and tried friends for new comers—which, it must be added, not unfrequently failed to equal the good qualities of their predecessors.

But, while this doctrine of Knight's has found ready supporters, we are bound to add that it has also met with sturdy opposition. At the head of the opposite party we may rank the most distinguished vegetable physiologist of the age, Professor De Candolle, of Geneva. Varieties, says De Candolle, will endure and remain permanent, so long as man chooses to take care of them, as is evident from the continued existence, to this day, of sorts, the most ancient of those which have been described in books. By negligence, or through successive bad seasons, they may become diseased, but careful culture will restore them, and retain them, to all appearance, for ever.

Our own opinion coincides, in the main, with that of De Candolle. While we admit that, in the common mode of propagation, varieties are constantly liable to decay or become

comparatively worthless, we believe that this is owing not to natural limits set upon the duration of a variety; that it does not depend on the longevity of the parent tree; but upon the care with which the sort is propagated, and the nature of the climate or soil where the tree is grown.

It is a well established fact, that a seedling tree, if allowed to grow on its own root, is always much longer lived, and often more vigorous than the same variety, when grafted upon another stock; and experience has also proved that in proportion to the likeness or close relation between the stock and the graft is the long life of the grafted tree. Thus a variety of pear grafted on a healthy pear seedling, lasts almost as long as upon its own roots. Upon a thorn stock it does not endure so long. Upon a mountain ash rather less. Upon a quince stock still less; until the average life of the pear tree when grafted on the quince, is reduced from fifty years—its ordinary duration on the pear stock—to about a dozen years. This is well known to every practical gardener, and it arises from the want of affinity between the quince stock and the pear graft. The latter is rendered dwarf in its habits, bears very early, and perishes equally soon.

Next to this, the apparent decay of a variety is often caused by grafting upon unhealthy stocks. For although grafts of very vigorous habit have frequently the power of renovating in some measure, or for a time, the health of the stock, yet the tree, when it arrives at a bearing state, will, sooner or later, suffer from the diseased or feeble nature of the stock.

Carelessness in selecting scions for engrafting, is another fertile source of degeneracy in varieties. Every good cultivator is aware that if grafts are cut from the ends of old bearing branches, exhausted by overbearing, the same feebleness of habit will, in a great degree, be shared by the young graft. And on the contrary, if the thrifty straight shoots that are thrown out by the upright extremities, or the strong limb-sprouts, are selected for grafting, they ensure vigorous growth, and healthy habit in the graft.

Finally, unfavourable soil and climate are powerful agents in deteriorating varieties of fruit-trees. Certain sorts that have originated in a cold climate, are often short-lived and unproductive when taken to warmer ones, and the reverse. This arises from a want of constitutional fitness for a climate different from its natural one. For this reason the Spitzenburgh apple soon degenerates, if planted in the colder parts of New England, and almost all northern sorts, if transplanted to Georgia. But this only proves that it is impossible to pass certain natural limits of fitness for climate, and not that the existence of the variety itself is in any way affected by these local failures.

Any or all of these causes are sufficient to explain the appa-

rent decay of some varieties of fruit, and especially of pears, over which some cultivators, of late, have uttered so many lamentations, scarcely less pathetic than those of Jeremiah.

Having stated the theories on this subject, and given an outline of our explanation, let us glance for a moment at the actual state of the so-called decayed varieties, and see whether they are really either extinct, or on the verge of annihilation.

Mr. Knight's own observations in England led him to consider the English Golden Pippin and the Nonpareil, their two most celebrated varieties of apple, as the strongest examples of varieties just gone to decay, or, in fact, the natural life of which had virtually expired twenty years before. A few years longer he thought it might linger on in the warmer parts of England, as he supposed varieties to fall most speedily into decay in the north, or in a cold climate.

Lindley, however, his contemporary, and second to no one in practical knowledge of the subject, writing of the Golden Pippin,* very frankly states his dissent as follows: "This apple is considered by some of our modern writers on Pomology, to be in a state of decay, its fruit of inferior quality, and its existence near its termination. I cannot for a moment agree with such an opinion, because we have facts annually before our eyes completely at variance with such an assertion. In Covent Garden, and indeed in any other large market in the southern or midland counties of England, will be found specimens of fruit as perfect, and as fine, as have been figured or described by any writer, either in this or any other country whatever. Instead of the trees being in a state of 'rapid decay,' they may be found of unusually large size, perfectly healthy, and their crops abundant; the fruit, perfect in form, beautiful in colour, and excellent in quality." And the like remarks are made of the Nonpareil.

Certain French writers, about this time, gladly seized Knight's theory as an explanation of the miserable state into which several fine old sorts of pears had fallen, about Paris, owing to bad culture and propagation. They sealed the death-warrant, in like manner, of the Brown Beurré, Doyenné, Chaumontel, and many others, and consigned them to oblivion in terms which Mr. Kenrick has already abundantly quoted.

Notwithstanding this, and that ten or fifteen years have since elapsed, it is worthy of notice that the repudiated apples and pears still hold their place among all the best cultivators in both England and France. Nearly half the pear-trees annually introduced into this country from France, are the Doyenné and Beurré. And the "extinct varieties" seem yet to bid defiance to theorists and bad cultivators.

* *Guide to the Orchard*, by George Lindley.

But half the ground is not yet covered. How does the theory work in America? is the most natural inquiry. In this country, we have soil varying from the poorest sand to the richest alluvial, climate varying from frigid to almost torrid—a range wide enough to include all fruit trees between the apple and the orange.

We answer that the facts here, judged in the whole, are decidedly against the theory of the extinction of varieties. While here, as abroad, unfavourable soil, climate, or culture, have produced their natural results of a feeble and diseased state of certain sorts of fruit, these are only the exceptions to the general vigour and health of the finest old sorts in the country at large. The oldest known variety of pear is the Autumn Bergamot—believed by Pomologists to be identically the same fruit cultivated by the Romans in the time of Julius Cæsar—that is to say, the variety is nearly two thousand years old. It grows with as much vigour, and bears as regular and abundant crops of fair fine fruit in our own garden, as any sort we cultivate. Whole orchards of the Doyenné (or Virgalieu) are in the finest and most productive state of bearing in the interior of this State, and numberless instances in the western states—and any one may see, in September, grown in the apparently cold and clayey soil near the town of Hudson, on the North River, specimens of this "outcast," weighing three fourths of a pound, and of a golden fairness and beauty of appearance and lusciousness of flavour worthy of the garden of the Hesperides,—certainly we are confident never surpassed in the lustiest youth of the variety in France. The same is true of all the other sorts when propagated in a healthy manner, and grown in the suitable soil and climate. Wherever the *soil is not exhausted of the proper elements* the fruit is beautiful and good. The largest and finest crops of pears regularly produced in our own gardens, are by a Brown Beurré tree, only too luxuriant and vigorous. Of the Golden Pippin apple, we can point out trees in the valley of the Hudson, productive of the fairest and finest fruit, and the St. Germain Pears grown by a neighbour here, without the least extra care, are so excellent, that he may fairly set them against any one of the newer varieties of Winter fruit.

On the other hand, we candidly admit that there has been for some time a failure of many sorts of pear and apple in certain parts of the country. All along the sea-coast *where the soil is light, and has been exhausted, by long cultivation, of lime, potash, and phosphates,* the inorganic elements absolutely necessary to the production of fine pears, many varieties that once flourished well, are now feeble, and the fruit is often blighted.*

* The symptoms of the decline or decay in the pear are chiefly these. The tree apparently healthy in the spring, blossoms, and sets a crop of

The apparent decline in these districts is owing to the lightness of the soil, which in this climate, under our hot sun (as we have already remarked), lays the foundation of more than half the diseases of fruit-trees—because, after a few years, the necessary sustenance is exhausted by the roots of a bearing tree, and every one knows how rarely it is re-supplied in this country. We can from our own observation on the effects of soil, take a map and mark out the sandy district on the whole sea-board, where certain sorts of pears no longer bear good fruit; while within a few miles, on strong deep loams, the fruit is fair and beautiful—the trees healthy and luxuriant.

Nothing is more convincing, on this point, than to compare the vigour and productiveness of the old pears, at the present moment, in the new soils of Rochester and Syracuse, abounding, not merely with vegetable matter, but with the necessary *inorganic food*, with the same sorts grown along the sea-board, in light soils, where the latter elements are no longer present in sufficient abundance. In the former localities, it is as common to see trees of the old variety bearing from ten to twenty bushels of unblemished fruit annually, as it is in the latter to see them bearing only crops of blighted pears.

Recent experiments have proved that it is not sufficient to bring healthy trees of the old varieties from the interior to the sea-board to insure, in the latter localities, fair and excellent crops. But, on the other hand, the complete renovation of blighted trees in light and exhausted soils, by the plentiful use of wood-ashes, bone-dust, lime, and blacksmith cinders, along with common manure, shows us distinctly that it is not the *age* of these varieties of fruit which causes their apparent decline, but a want of that food absolutely necessary to the production of healthy fruit.

But there is another interesting point in this investigation. Do the newly-originated sorts really maintain in the unfavourable districts the appearance of perfect health? Are the new pears uniformly healthy where the old ones are always feeble?

Undoubtedly this question must be answered in the negative. Some of the latest Flemish pears already exhibit symptoms of decay or bad health in these districts. Even Mr. Kenrick, with all his enthusiasm for the new sorts, is obliged to make the following admission respecting the Beurré Diel pear, the most vigorous and hardy here of all: "I regret to add, that near Boston

fruit. Towards midsummer its leaves are disfigured with dark or black spots, and except a few at the ends, fall from the branches. The fruit is covered with black specks, often ceases growing when at half its size, and in the worst cases the skin becomes hard, cracks, and the fruit is entirely worthless. This rusty and diseased state of the skin, is caused by the attack of a minute species of fungi (*Uredo*, *Puccinia*, etc.) which fasten upon, or are generated in vegetable surfaces in a languid state of health.

this noble fruit is liable to crack badly.' We predict that many of the Flemish pears originated by Van Mons will become feeble, and the fruit liable to crack, in the neighbourhood of Boston, in a much less time than did the old varieties.

And this leads us to remark here, that the hardness of any variety depends greatly upon the circumstances of its origin. When a new variety springs up accidentally from a healthy seed in a semi-natural manner, like the Seckel, the Dix, and other native sorts, it will usually prove the hardiest. It is, as it were, an effort of nature to produce a new individual out of the materials in a progressive state, which garden culture has afforded. Cross-bred seedlings—one parent being of a hardy nature, and both healthy—such as Knight's own seedlings, the Monarch and Dunmore pears—are next in hardiness. Lastly, we rank varieties reared by Van Mons' method—that of continually repeated reproductions. This, as Van Mons distinctly states, is an *enfeebling* process—without any compensating element of vigour. Hence it follows, as a matter of course, that seedlings of the fifth or sixth generation, as are some of his varieties, must in their origin be of feeble habit. Van Mons himself was fully aware of this, and therefore resorted to "grafting by copulation"—in fact, root-grafting—well knowing that on common stocks these new varieties would, in light soils, soon become feeble and decayed. It is needless for us to add that hence we consider the Belgian mode of producing new varieties greatly inferior to the English one, since it gives us varieties often impaired in health in their very origin.

If any further proof of this is desired, we think it is easily found by comparing the robust vigour and longevity of many native pear trees to be found in the United States—some of them 80 or 100 years old, and still producing large crops of fruit—with the delicate trees of several new varieties now in our gardens from Europe. These varieties are delicate, not only with respect to their constitutional vigour, but they are also more susceptible to injury from the severity of our winter's cold and summer's sun.

There are great advantages, undoubtedly, for soils naturally unfavourable, and for small gardens, in grafting the pear upon quince stocks; yet, as it diminishes the vigour of the tree, it is not impossible that continued propagation from dwarf trees may somewhat lessen the vital powers and the longevity of a given variety.

The decay of varieties of the Apricot, or Peach, much shorter lived trees by nature, we seldom or never hear of. Varieties of both are now in cultivation, and in the most perfect vigour, of 200 years' duration. This, probably, is owing to the more natural treatment these trees receive generally. Varieties of the vine are said never to degenerate, and this is per-

haps owing to their having very rarely been propagated by grafting.*

We are not without remedy for varieties that have partially decayed in a certain district. If the trees have once been productive of excellent fruit, and are still in a sound condition, though enfeebled, a thorough renewal of their powers will again restore them to health. To effect this, the soil about the roots should be replaced by new, enriched by manure or peat-compost, and mixed with the mineral substances named in the preceding page. The bark of the trunk and large branches should be well scraped, and, as well as all the limbs, thoroughly washed with soft soap. The head should be moderately pruned; and finally, the tree should be suffered to bear no fruit for the two following seasons. After this it will generally bear excellent fruit for several years again.†

In making plantations of fine old varieties, in districts where the stock has become feeble, something may be gained by procuring grafts or trees from more favourable localities, where the fruit is still as fair as ever—and care should be exercised in selecting only the healthiest grafts or trees. Nurserymen in unfavourable districts should endeavour to propagate only from trees of healthy character; and if those in their own vicinity are diseased, they should spare no pains to bring into their nurseries, and propagate only such as they feel confident are healthy and sound. On them, next to the soil, depends very considerably the vigour or debility of the stock of any given variety in the country around them.

In Mr. Knight's original essay on the decay of varieties, he clearly stated a circumstance that most strongly proves what we have here endeavoured to show—viz.: that the local decline of a variety is mainly owing to neglect, and to grafting on bad

* We do not deny that in any given soil there is a period at which a variety of tree or plant exhibits most vigour, and after having grown there awhile it ceases to have its former luxuriance. The same is true of wheat or potatoes, and accordingly farmers are in the habit of "changing their seed." The nutriment for a given variety is after a time exhausted from the soil, and unless it is again supplied the tree must decline. In light soils this speedily happens. In strong, clayey or rocky soils, the natural decomposition of which affords a continual store of lime, potash, &c., the necessary supply of inorganic food is maintained, and the variety continues healthy and productive.

† It is not uncommon to hear it said that the Newtown pippin—that finest of all apples—is degenerating rapidly. The solution of this is easy. More than any other apple does this one need lime and high culture. In proof, we may state that *never* have there been finer Newtown pippins raised, or in so large quantities, as at the present moment on the Hudson River. One gentleman's orchards supply hundreds, we may say thousands of barrels to the London markets of the fairest, largest, and highest-flavoured fruit we have had the pleasure of seeing or tasting. If any one will turn to page 62, he will speedily see *why* this variety has not fallen into decay at Pelham farm.

stock. We allude to the fact repeatedly verified, that healthy young shoots taken from the *roots* of an old variety in apparent decline, produce trees which are vigorous and healthy. "The decay," says he, "of the powers of life in the roots of seedling trees is exceeding slow comparatively with that in the branches. Scions (or shoots) obtained from the roots of pear trees two hundred years old, afford grafts which grow with great vigour, and which are often covered with thorns like young seedling stocks; whilst other grafts taken at the same time from the extremities of the branches of such trees present a totally different character, and a very slow and unhealthy growth. I do not conceive that such shoots possess all the powers of a young seedling, but they certainly possess no inconsiderable portion of such powers."

This is nothing more, in fact, than going back to the roots, the portion of the tree least exhausted, for the renewal of the health of a variety when the branches of the tree have been exhausted by overbearing, &c. It is a simple and easy mode of increasing the vigour of a sort of delicate habit, to take scions from young root suckers for grafting anew. This can of course only be done with trees that grow on their own roots, or have not been grafted. And we suggest it, as worth the attention of those interested in gardening, to graft feeble sorts on pieces of roots, with a view to establishing them finally on their own roots, or to raise them from *layers*, a more simple mode of attaining the object.

Mr. Knight's idea, that old varieties first decay in the north, while they yet remain comparatively good in warmer and more southern districts, is by no means borne out by the existing facts in America. On the contrary, the decline here, as we have already stated, is almost entirely along the sea-board, and to the southward. In the interior, and to the north, the same sorts are universally fair and excellent, except in cases where a diseased stock has been obtained from the sea-board, and has not recovered its health by removal. The whole middle and western sections of the country abound, more or less, with the finest pears, of sorts that are in a state of decline on Long Island, in portions of New Jersey, or near Boston. But *the influence of the soil*, so far as our own observations extend, is, after a certain time, always the same. In this light soil the pear and the apple soon become feeble, because the sustenance afforded by it is, after a time, insufficient to keep the tree in a continual healthy, bearing state. The moisture afforded by it is not great enough to answer the demand made upon the leaves by our hot summer sun. Unless this is remedied by skilful culture, these fruits must more speedily fail in health in such districts, while in more favourable ones they will remain as sound and healthy as ever.

From these remarks, it will be perceived how important it is in all exhausted soils to supply the *necessary food* to varieties that have "run out" from the want of it, and how unwise we believe it to be to reject such incomparable fruits as the Newtown pippin, and the Doyenné pear, because *in certain local districts*, from causes easily explained, they have become feeble and diseased.

NOTE.—*To prevent mice or rabbits from girdling trees.*—Great injury is done to young orchards in some districts by the *meadow mouse*. This little animal always works *under cover*, and therefore does its mischief in winter when the snow lies deeply upon the ground. A common and effectual mode of deterring it is that of treading down the snow firmly about the stem directly after every fall of snow. But this is a very troublesome affair.

The following mixture will be found to be an effectual prevention. Take one spadeful of hot slaked lime, one do. of clean cows-dung, half do. of soot, one handful of flowers of sulphur, mix the whole together with the addition of sufficient water to bring it to the consistency of thick paint. At the approach of winter paint the trunks of the trees sufficiently high to be beyond the reach of these vermin. Experience has proved that it does no injury to the tree. A dry day should be chosen for its application.

English nurserymen are in the habit of protecting nurseries of *small trees* from the attacks of *rabbits*, simply by distributing through the squares of the nursery coarse matches made by dipping bunches of rags, or bits of tow, in melted sulphur, and fastening these in split stakes a couple of feet high. The latter are stuck into the ground, among the trees, at from 12 to 20 feet apart, and are said completely to answer the purpose.

NOTE.—*Wash for the trunks and branches of fruit trees.*—The best wash for the stems and branches of fruit trees is made by dissolving two pounds of *potash* in two gallons of water. This is applied with a brush at any season, but, perhaps, with most effect in the spring. One, or, at most, two applications will rid the stem of trees of the bark louse, and render it smooth and glossy. It is far more efficacious than whitewash, as a preservative against the attacks of insects, while it promotes the growth of the tree, and adds to the natural lively colour of the bark.

The *wash of soft soap* is also a very good one for many purposes. Though not equal for general purposes to the potash wash, it is better for old trunks with thick and rigid bark, as a portion of it remains upon the surface of the bark for some time, and with the action of every rain is dissolved, and thus

penetrates into all the crevices where insects may be lodged, destroying them, and softening the bark itself.

NOTE.—*Key to French standard names of Fruit.*—To meet the wants of some of our farming friends, in various parts of the country, who are zealous collectors of fruit, but at the same time are more familiar with plough-handles than with the sound of *Monsieur Crapaud's* polite vernacular, we have prepared the following little key to the pronunciation of such French names as are necessarily retained among the standard varieties.

So long as these sorts must retain their foreign names, it is very desirable that they should be correctly pronounced. To give to these French terms what appears to merely English readers the proper sound is often as far as possible from the true pronunciation. A skilful Hibernian gardener puzzled his employer, a friend of ours, during the whole month of September with some pears that he persisted in calling the "Lucy Bony," until, after a careful comparison of notes, the latter found he meant the *Louise Bonne.*

We have, therefore, in the following, eschewed all letters with signs, and given, as nearly as types alone will permit us, the exact pronunciation of the French names.

KEY TO FRENCH NAMES.

APPLES.

Court Pendu Plat.—Coor Pahn du Plah.
Drap d'Or—Drah dor.
Fenouillet Gris—Fen-nool-yai Gree.
Male Carle.—Mal Carl.
Pomme de Neige.—Pum de Naije.
Reinette Blanche d'Espagne.—Ren-ett-Blansh d'Espagne.
Reinette Triomphante.—Ren-ett Tre-ome-fant.

APRICOTS.

Albergier.—Al-bare-je-ai.
Briançon.—Bre-ahn-sohn.
Belle de Choisy.—Bel de Shwoi-sey

Belle Magnifique.—Bel Man-gne-feek.
Bigarreau.—Be-gar-ro.
Bigarreau Rouge.—Be-gar-ro Rooje.
Bigarreau Couleur de Chair.—Be-gar-ro Coo-lur de Shair.
Bigarreau Gros Cœuret.—Be-gar-ro Gro Keur-ai.
Bigarreau Tardif de Hildesheim.—Be-gar-ro Tar-deef de Hildesheim.
Gros Bigarreau Rouge.—Gro Be-gar-ro Rooje.
Griotte d'Espagne.—Gre-ote Des-pan.

GRAPES.

Chasselas Musqué.—Shah-slah Meuskay.
Chasselas de Fontainebleau.—Shah-slah de Fone-tane-blo.
Ciotat.—Se-o-tah.
Lenoir.—Lun-war.

NECTARINES.

Brugnon Violet Musqué.—Brune-yon Ve-o-lay Meus-kay.
Brugnon Musqué.—Brune-yon Meus-kay.
D'Angleterre.—Dahn-glet-are.
Duc du Tellier.—Deuk du Tel-yay.

PEACHES.

Abricotée.—Ab-re-co-tay.
Belle de Vitry.—Bell de Ve-tree.
Grosse Mignonne.—Groce Mene-yon.
Madeleine de Courson.—Mad-lane de Coor-son.
Pavie de Pompone.—Pah-vee de Pom-pone.
Pourprée Hâtive.—Poor-pray Hat-eve.
Sanguinole à Chair adhérente.—Sahn-gwe-nole ah Shair Ad-hay-rent.

PEARS.

Amiré Joannet.—Am-e-ray Jo-ahn-nay.
Ananas.—An-an-ah.
Ananas d'Eté.—An-an-ah Da-tay.
Angleterre.—Ahn-glet-are.
Beurré.—Bur-ray.
Belle de Bruxelles.—Bel-de Broos-ell.
Belle et Bonne —Bel-a-Bun.
Belle-Lucrative.—Bel-lu-crah-teve.
Beurré de Capiumont.—Bur-ray de Cap-u-mohn.
Beurré d'Amalis.—Bur-ray Dah-mah-lee.
Beurré Gris d'Hiver Nouveau.—Bur-ray Gree Dee-vair Noo-vo
Beurré Diel.—Bur-ray De-ell.
Beurré Bronzée.—Bur-ray Brone-zay.
Bezi d'Heri.—Ba-zee Daree.
Bezi Vaet.—Bazee Vah-ai.
Beurré Crapaud.—Bur-ray Crah-po.
Bezi de Montigny.—Bay-zee de Mon-teen-gnee.
Bon Chrétien Fondante.—Bone Cray-te-an Fone-donte.
Boucquia.—Boo-kiah.

Calebasse Grosse.—Cal-bass Groce.
Capucin.—Cap-u-san.
Chaumontel très Gros.—Sho-mone-tell tray Gro.
Compte de Lamay.—Conte de Lah-me.
Colmar Epine.—Cole-mar A-peen.
Crassanne.—Cras-sahn.
Cuisse Madame.—Kuees Mah-dam.
D'Amour.—Dam-oor.
De Louvain.—Dul-oo-van.
Délices d'Hardenpont.—Day-lece Dar-dahn-pone
Doyenné d'Eté.—Dwoy-on-nay Day-tay.
Doyenné Panaché.—Dwoy-on-nay Pan-ah-Shay.
Dumortier.—Du-mor-te-ay.
Duchesse d'Angoulême.—Du-shess Dong-goo-lame.
Duchesse d'Orléans.—Du-shess Dor-lay-on.
Enfant Prodige.—On-font Pro-deeje.
Epine d'Eté.—A-peen day-tay.
Figue de Naples.—Feeg de Nah-pl.
Fondante d'Automne.—Fone-donte do-tonn.
Forme de Délices.—Form de Day-lece.
Forelle.—Fo-rel.
Fondante du Bois.—Fone-dont du Bwoi.
Fortunée.—For-tu-nay.
Franc Réal d'Hiver.—Fronk Ray-ahl Dee-vair.
Glout Morceau.—Gloo Mor-so.
Héricart —Hay-re-car.
Jalousie.—Jal-oo-zee.
Jalousie de Fontenay Vendée.—Jal-oo-zee de Fone-ten-ai Von-day.
Léon le Clerc.—Lay-on le Clair.
Limon.—Lee-mohn.
Louise Bonne.—Loo-eze Bun.
Madeleine, or Citron des Carmes.—Mad-lane, or Cee-trone day Carn.
Marie Louise.—Mah-re Loo-eze.
Michaux.—Me-sho.
Passans de Portugal.—Pah-sahn de Por-tu-gal.
Pailleau.—Pahl-yo.
Paradise d'Automne.—Par-ah-deze do-tonn.
Passe Colmar.—Pass Col-mar.
Quilletette.—Keel-tet.
Reine Caroline.—Rane Car-o-lene.
Reine des Poires.—Rane day Pwore.
Rousselet Hâtif.—Roos-lay Hat-eef.
Sanspeau.—Sahn-po.
Sieulle.—Se-ull.
Sucrée de Hoyerswarda.—Seu-cray de Hoyersworda.
Surpasse Virgalieu.—Seur-pass Vere-gal-yu.
St. Germain.—San Jare-man.
Sylvange.—Seel-vonje.
Vallée Franche.—Vol-lay Fronsh.
Verte Longue.—Vairt Longh.
Verte Longue Panachée.—Vairt Longh Pan-ah-shay.
Virgouleuse.—Vere-goo-leuz.
Wilhelmine.—Wil-el-meen.

PLUMS.

Abricotée Rouge.—Ab-re-co-tay Rooje.
Diaprée Rouge.—De-ah-pray Rooje.

Drap d'Or.—Drah-dor.
Jaune Hâtive.—Jaun Hat-eve.
Mirabelle.—Me-rah-bell.
Précoce de Tours.—Pray-cosé de Toor.
Prune Suisse.—Prune Su-ece.
Royale Hâtive.—Rwoy-al Hat-eve.

INDEX TO THE DIFFERENT FRUITS.

[The standard names are in Roman letters. The synonymous names in *Italic.*]

ALMONDS.

	Page
Amande Commune	233
Amandier Commun	233
Amandier à Petit Fruit	233
Amandier à Coque Tendre	233
Amandier des Dames	233
Amande Princesse	233
Amande Sultane	234
Amandier Sultane	234
Amandier Pistache	234
Amande Pistache	234
Amandier à Gros Fruit	233
Common Sweet	233
Amandier-Pêcher	234
Bitter Almond	234
Common Almond	233
Doux à Coque Tendre	233
Ladies' Thin Shell	233
Long Hard-Shell Almond	233
Peach Almond	234
Pêcher	234
Pistachia Sweet Almond	234
Soft-Shell Sweet Almond	233
Sultan à Coque Tendre	233
Sultana Sweet Almond	234

APPLES.

	Page
Abbott's Sweet	113
Adams	113
Æsopus Spitzenberg	105
Æsopus Spitzenburg	105
Agnes's	113
Ailes	113
Allum	113
Alexander	206
Alfriston	206
American Summer Pear	71
American Golden Pippin	79
American Beauty	115
American Newtown Pippin	88
American Pippin	207
American Mammoth	214
American Red Juncating?	138
Amber Crab	228
Angle	207
Anglo-American	114
Api	85
Api Petit	85
Aromatic Carolina	114
Arndorf	178
Arne's Early	178
Arbroath Pippin	219
Ashland	114
Ashmore	114
Aunt Hannah	114
Autumn Pearmain	114
Autumn Pippin	115
Autumnal Swaar	115
Autumnal Sweet Swaar	115
August Apple	137
Autumn Strawberry	163
Autumn Sweet Bough	71
Aurore	183
Aurora	198
Augustine	207
Averill	116
Baldwin	71
Bachelor	116
Baer	116
Bailey's Spice	116
Bailey's Sweet	116

	Page
Bailey's Golden	117
Barbour	117
Baker's Sweet	117
Baltimore	117
Bars	117
Barrett	118
Bay Apple	136
Balgone Pippin	146
Bayfordbury Golden Pippin	146
Baldwin Sweet	207
Barrett	207
Bardin	213
Baltimore	214
Belle-Fleur, Yellow	72
Belle-Fleur	72
Belmont	74
Beauty of Kent	118
Beauty of the West	118
Beefsteak	118
Belle et Bonne	118
Belle-Fleur, Brabant	119
Belden Sweet	119
Ben Davis	119
Berry	120
Benoni	120
Betsy's Fancy	120
Better than Good	120
Bentley's Sweet	121
Bevan's Favorite	121
Beauty Red	130
Beard Burden	136
Ben Apple	141
Bedfordshire Foundling	207
Belle-Fleur, Red	207
Belle-Fleur, Rouge	207
Belden, or Red Cheek	208
Bennington	189
Beauty	190
Berry Bough	222
Bell's Scarlet Pearmain	187
Big Hill	96
Big Sweet	200
Big Romanite	220
Big Vandevere	199
Birmingham	208
Black Coal	121
Bledsoe Pippin	121
Blockley	121
Blakely	121
Black Apple of some	134
Black Apple	208
Black American	208
Black Oxford	208
Black Gilliflower	208
Blenheim Pippin	208
Blenheim Orange	208
Blue Sweet	181
Blush June	127
Bough	86
Bohannan	74
Borivitsky	209
Boxford	209
Borsdorffer	209
Borsdorff	209
Bonne de Mai	136
Boalsburg	122
Bonum	122
Bourassa	122
Bowling's Sweet	122
Bowker	123
Broadwell	74
Broadwell Sweet	74
Bread and Cheese Apple	96
Brennaman	123
Brigg's Auburn	123
Brittle Sweet	123
Brookes' Pippin	123
Brewer	209
Brandy Apple	214
Buchanan	74
Buchanan's Pippin	124
Buchanan's Seedling	124
Buckingham	124
Buck Meadow	124
Buffington's Early	124
Bullet	124
Buff	125
Burr's Winter Sweet	125
Bush	125
Butter	125
Burlington Greening	100
Bucks County Pippin	123
Burnhap Greening	209
Bullock's Pippin	103
Buncombe?	182
Bullripe	136
Carmel Sweet	210
Caleb Sweet	125
Cannon Pearmain	126
Camak's Sweet	126
Camak's Winter Sweet	126
Capron's Pleasant	126
Caroline	126
Carolina Red June	127
Carnahan's Favorite	127
Carter	127
Carnation	127
Caywood	128
Canadian Reinette	99
Cane	158
Cain	158
Cayuga Red Streak	198
Canada Pippin	208
Cake Apple	209
Calville, White Winter	209
Capendu	131

	Page
Calville Blanche d'Hiver	209
Calville, Red Winter	210
Calville Rouge d'Hiver	210
Calville Rouge	210
Cambuthnethan Pippin	210
Cann	210
Carbage	210
Cash Sweet	210
Catline	210
Cathead Sweet	210
Catshead	211
Cathead Greening	211
Catshead Beaufin	218
Campfield	226
Carthouse	226
Chalmer's Large	212
Chandler	128
Challenge	128
Champlain	128
Charles Apple	168
Cheeseborough Russet	211
Chester	128
Christiana	129
Churchill Greening	129
Clarke Pearmain	129
Clyde Beauty	129
Cluster	211
Clarmont Pippin	212
Cogswell	75
Cogswell Pearmain	75
Cobbett's Fall Pippin	99
Cole	129
Cole's Quince	130
Conway	130
Cooper	130
Cooper's Market	130
Cooper's Redling	130
Cornish Gilliflower	130
Cornish July-flower?	130
Cornell's Fancy	131
Cornell's Favorite	131
Cos, or Caas	131
Cooper's Russeting	225
Coe's Spice	136
Copmanthorpe Crab	137
Coxe	148
Coleman	198
Cornish Aromatic	211
Court-pendu Doré	183
Court-pendu Gris	213
Court-pendu Plat	131
Court-pendu	131
Court-pendu Plat Rugeatre	131
Court-pendu Extra	131
Court-pendu Rond Gros	131
Court-pendu Rose	131
Court-pendu Musqué	131
Court-pendu Rouge Musqué	131
Court of Wick	132
Court of Wick Pippin	132
Court de Wick	132
Connecticut Seek-no-further	110
Coriandre Rose	131
Cranberry Pippin	132
Cracking	132
Crimson Pippin	134
Cram, or Kram	211
Crow Egg	211
Culp	132
Cumberland Spice	133
Curtis Sweet	133
Currant Crab	229
Cullasaga	126
Danver's Winter Sweet	133
Davis	133
Dainty Apple	215
D'Espagne	99
De Bretagne	99
Derrick's Graft	101
Derry Nonsuch	133
Detroit Black	134
Detroit Red	134
Detroit	134
Devonshire Quarrenden	134
De Witt	211
Dinsmore	133
Dillingham	134
Disharoon	135
Domine	135
Downton Pippin	135
Downton Golden Pippin	135
Downing's Paragon	136
Doctor	211
Dodge's Early Red	212
Downy	215
Double Flowering Chinese Crab	229
Double Flowering Apple	229
Double White Siberian Crab	229
Drap d'Or	136
Dutchess of Oldenburgh	136
Duling?	129
Dutch Mignonne	137
Duckett	137
Dundee	183
Dumelow's Seedling	212
Dumelow's Crab	212
Dutch Codlin	212
Dyer, or Pomme Royale	136
Early Summer Pearmain	71
Early Harvest	74
Early French Reinette	74
Early Joe	76
Early Sweet Bough	86
Early Summer Pippin	136
Early Pennock	137
Early Long Stem	138

	Page
Early Chandler	138
Early Spice	138
Early Strawberry Apple	138
Early Red Margaret	139
Early Red Juneating	139
Early Chandler	212
Easter Pippin	212
Early Crofton	215
Edgerly's Sweet	116
Edmonton's Aromatic Pippin	216
Egg Jop?	211
Eighteen Ounce Apple	198
Elicke's Winter Sweet	140
Elizabet	183
Elton Pippin	135
Elder Winter Borsdorffer	209
Ellis	212
Embroidered Pippin	213
Emperor Alexander	206
English Golden Pippin	146
English Pippin	183
English Nonpareil	218
English Codlin	177
English Sweet	190
English Vandevere	104
Enfield Pearmain	140
Epse's Sweet	133
Epsy	213
Equinteley	139
"*Esquire Miller's Best Sort*"	94
Esten	140
Eustis	141
Eve Apple	139
Evening Party	77
Ewalt	141
Excel	141
Exquisite	141
Fall Wine	114
Fall Bough	71
Fall Queen	77
Fall Pippin	77
Fall Wine	78
Fall Seek-no-further	142
Fall Harvey	142
Fall Pearmain	143
Fall Orange	143
Fall Jenneting	213
Fameus	94
Fairbanks	141
Farley's Red	142
Fallowater	142
Falwalder	142
Fay's Russet	143
Father Apple	180
Fenouillet Gris	213
Fenouillet Rouge	213
Fenouillet Jaune	213
Ferris	165
Fisk's Seedling	143
Flat Pippin	180
Flat Sweet	213
Flower of Kent	213
Flushing Seek-no-further	148
Flint Russet	221
Forest Styre	227
Formosa Pippin	184
Fornwalder	142
Focht	144
Foundling	144
Ford Apple	144
Fort Miami	144
French Pippin	144
Franklin's Golden Pippin	145
French Pippin	176
Frank Rambour	182
French Crab	212
Fry's Pippin	132
Fulton	78
Gate	74
Garden Royal	79
Gabriel	145
Garretson's Early	145
Ganet Pippin	209
Garnon's Apple	131
Garden Apple	118
Gewiss Good	145
Gewis Guth	145
Gilpin	226
Gillett's Seedling	102
Gloucester Pearmain	129
Gloria Mundi	214
Glazenwood Gloria Mundi	214
Gloucester White	214
Glace de Zélande	225
Glory of York	184
Golden Pearmain	129
Golden Drop	132
Golden Pippin	79
Golden Ball	146
Golden Russet	146
Golden Sweet	146
Golden Harvey	214
Golden Apple	214
Green Newtown Pippin	88
Green Winter Pippin	88
Green Seek-no-further	148
Greenskin	148
Green's Choice	148
Green Mountain Pippin	148
Green Cheese	148
Green Abram	124
Green Sweet	81
Green Vandevere	199
Green Domine	214
Gravenstein	80
Grave Slije	80

	Page
Gros Api Rouge	85
Greasy Pippin	90
Grosse Reinette d'Angleterre	99
Granny Buff	125
Grape Vine	126
Grand Sachem	134
Grosser Casselar Reinette	137
Groton	144
Grandfather	147
Greasy Pippin	166
Gregson Apple	210
Grindstone	207
Greyhouse	214
Grime's Golden Pippin	149
Gray Apple	180
Grise	180
Hall	81
Hall's Seedling	81
Hall's Red	81
Haskell Sweet	82
Hawley	82
Hain	149
Harris	149
Harnish	149
Hawthornden	149
Hallum	113
Harmony	137
Hay's Winter	204
Harvest Red Streak	214
Hampshire Yellow	216
Harrigan	217
Harrison	226
Hagloe Crab	227
Hewe's Virginia Crab	226
Hector	150
Hemphill	150
Henry Apple	150
Henrick Sweet	150
Henry Sweet	150
Herman	151
Hess	151
Hepler	151
Herefordshire Red Streak	227
Hewitt's Sweet	215
Heicke's Winter Sweet	165
Herefordshire Golden Pippin	146
Highlander	151
Hightop Sweet	151
Hilton	151
Hill's Favorite	152
Hinckman	176
Honey Greening	81
Hog Island Sweet	152
Hollady's Seedling	152
Holland Pippin	152
Hollow Cored Pippin	90
Hogan—English Red Streak	135
Holden	143
Hoypen	143
Hollow Crown	153
Homony	153
Honey Greening	153
Hooker	153
Horse Apple	154
Housum's Red	154
Hoover	154
Howe's Russet	154
Horse Block	169
Howe Apple	204
Howard Russet	211
Hoary Morning	215
Holland Sweet	215
Hubbardston Nonsuch	82
Hubbarton Pippin	154
Hughes	155
Hurlbut	155
Hurlbut Stripe	155
Hunt's Russet	155
Hutching's Seedling	194
Hunge	215
Hunger	215
Hyde's Sweet	112
Indian Queen	137
Indiana Jannetting	99
Indian Prince	215
Indiana Vandevere	199
Indeed Good	145
Indiana Favorite	156
Iola	155
Ironstone Pippin	212
Irish Peach Apple	215
Irish Russet	222
Januarea	99
Jackson	156
James River	164
Jenny Seedling	81
Jefferis	83
Jennett	99
Jersey Greening?	100
Jefferson County	156
Jenkins	156
Jerrey Sweeting	156
Jewett's Fine Red	157
Jewett's Best	157
Joe Berry	108
Jones' Pippin	143
Jonathan	83
John's Sweet	157
Johnson	157
John Carter	158
Johnson's Fine Winter	206
Juicy Bite	120
Junalieska	155
July Pippin	74
Julian	158
Juling	158

	Page
Juneating	202
Kane	158
Kaighn's Spitzenburgh	158
Keiser	159
Keim	159
Kelsey	159
Keswick Codlin	158
Kentish Fill-Basket	159
Kentucky Apple	160
Keny's Sweet	190
Kerry Pippin	216
Ketchum's Favorite	161
Kenrick's Autumn	215
Kilham Hill	216
King Philip	83
King of Tomkins County	84
King Apple	84
King	116
Kirkbridge White	160
Kirk's Golden Reinette	183
King	209
King George the Third	209
Kingsbury Russet	211
King of the Pippins	216
Kirk's Lord Nelson	216
Kirke's Lemon Pippin	216
Klaproth	160
Knight's Golden Pippin	135
Knightwick Pippin	132
Knight's Codlin	225
Kocning's Pippelin	146
Krowser	161
Late Golden Sweet	117
Lady Washington	130
Large Black	134
Ladies' Blush	145
Ladies' Sweet of some	150
Lady de Grey's	159
Lady Healy's Nonsuch	161
Lake	161
Lane's Red Streak	162
Lane's Sweet	162
Landrum	162
Large Striped Winter Pearmain	163
Late Strawberry	163
Lacker	163
Laquier	163
Large Fall Pippin	99
Late Bough	71
Large White Juneating	74
Ladies' Favorite	77
Lady Apple	85
Large Yellow Bough	86
Large Yellow Summer	166
Large Romanite	220
Large Red Siberian Crab	228
Ledge Sweet	163
Leland Spice	163
Leland Pippin	163
Lewis	164
Leicester Sweet	164
Leather Apple of Turie	180
Le Grand Bohemian Borsdorffer	209
Lemon Pippin	216
Limber Twig	164
Little Pearmain	103
Lima	198
Little Vandevere of Indiana	199
Lincoln Pippin	204
Long Stem of Pennsylvania	86
Long Stem Sweet	117
London Golden Pippin	146
Locy	164
Long Stem of Massachusetts	164
London Sweet	165
Londonderry	133
Long Island Seek-no-further	165
Long John	165
Long Pearmain	165
Loring Sweet	165
Lowell	166
Lord Gwydr's Newtown Pippin	206
Longville's Kernel	216
Lovett's Sweet	216
Loudon Pippin	165
Lucombe's Seedling	217
Lyman's Pumpkin Sweet	166
Lyman's Large Summer	166
Lyscom	166
Mamma Beam	74
Mangum	87
Maxfield	87
Martin	87
Magnum Bonum	122
Margaret, or Striped Juneating	139
Margaretha Apfel	139
Matthew Stripe	166
Macomber	167
Magnolia	167
Maiden's Favorite	167
Maiden's Apple	167
Maiden's Blush	167
Major	168
Male Carle	168
Mansfield Russet	169
Manomet	169
Manomet Sweet	169
Marks	169
Maria Bush	169
Marston's Red Winter	169
Maverack's Sweet	170
Margil	217
Malus Baccata	228
Malus Spectabilis	229

	Page
Mackie's Clyde Beauty	129
Maiden's Bosom	174
McLellan	87
McAfee's Nonsuch	170
McHenry	171
Mela di Carlo	168
Mela Carla	168
Meach	171
Meigs	171
Meister	171
Melt in the Mouth	171
Mexico	171
Melon	87
Meachem Sweet	174
Megginch Favorite	183
Melvill Sweet	217
Menagère	217
Merritt's Sweet	217
Methodist	217
Millcreek Vandeyere	104
Milton Golden Pippin	146
Michael Henry Pippin	172
Middle	172
Mittle	172
Mifflin King	172
Miller	172
Miller Apple	172
Minister	173
Milam	217
Mother	87
Monmouth Pippin	88
Mountain Pippin	142
Molasses	173
Monk's Favorite	173
Moore's Greening	173
Moses Wood	174
Mouse Apple	174
Moose Apple	174
Morrison's Red	174
Monstrous Pippin	214
Monarch	218
Moore's Sweet	218
Molasses Sweet	181
Morgan's Favorite	198
Muskmelon	197
Munson Sweet	174
Munche's Pippin	217
Murphy	218
Mygatt's Bergamot	136
Nantehalee	174
New York Greening	79
Newtown Greening	79
Newtown Pippin	88
Newtown Pippin, Yellow	89
Neverfail	99
Newtown Spitzenburgh	137
New Jersey Red Streak	137
Ne Plus Ultra	175
Nequassa	175
Neversink	175
Newark King	176
Newark Pippin	176
New York Spice	163
New Scarlet Nonpareil	218
New York Gloria Mundi	214
Neisley's Winter Penick	220
Newark Sweeting	226
Nickajack	175
N. C. Greening	124
Norton's Melon	87
Northern Spy	90
Nodhead	157
Northern Sweet	177
Northern Golden Sweet	177
Non Pareille	218
Norfolk Beaufin	218
Nonpareil Scarlet	218
Nonsuch	218
Nonpareil, Old	218
Norfolk Pippin	219
Oconee Greening	177
Ohio Wine	78
Ohio Favorite	90
Ohio Red Streak	177
Old Field	219
Old English Codlin	177
Old Home	177
Old Golden Pippin	146
Old Nonsuch	97
Oldaker's New	206
Orange	166
Ortley	90
Ortley Pippin	90
Orange Sweeting	146
Orange Sweet	174
Orange Apple	178
Oslin	219
Osgood's Favorite	166
Osceola	178
Owen's Golden Beauty	202
Ox Eye	108
Oxford Peach	187
Ox Apple	214
Paterson's Sweet	116
Paternoster Apfel	137
Paradise, Winter Sweet	178
Parmain d'Eté	114
Pecker	71
Petit Api Rouge	85
Petersburgh Pippin	88
Peck's Pleasant	91
Pepin d'Or	146
Peach-Pond Sweet	179
People's Choice	179
Pearson's Plate	219
Pearmain Blue	219

	Page
Pearmain, Adams	219
Pearmain, Claygate	219
Pennock's Red Winter	220
Pennock	220
Pennington's Seedling	220
Philadelphia Sweet	71
Philip Rick	83
Philip's Reinette	132
Phillip's Sweet	179
Phillippi	179
Pitzer Hill	96
Pim's Beauty of the West	142
Pie Apple	152
Pickman	180
Pink Sweeting	180
Pittsburgh Pippin	180
Pine Apple Russet	220
Pomme Rose	85
Pomme d'Api Rouge	85
Pomme de Neige	94
Pomme du Caen	99
Pomme Regelans	130
Pomme de Berlin	131
Pomme de Laak	137
Pomme d'Or	146
Pomme Finale	168
Pomme de Charles	168
Pomme Grise	180
Pomme de Cuir	180
Pomme de Caractère	213
Porter	95
Portugal	99
Pound	120
Pound Sweet	166
Potter Sweet	164
Potter's Large Seedling	159
Pompey	200
Polly Bright	180
Porter Spitzenburgh	181
Pownal Spitzenburgh	181
Poppy Greening	153
Pound Royal	220
Press Ewing	181
Priest's Sweet	181
Progress	94
Pride of September	188
Press	220
President	221
Priestley	211
Priestley's American	221
Prolific Sweet	221
Prince's Harvest, or Early French Reinette	74
Primate	93
Prior's Red	96
Princesse Noble Zoete	131
Purple Siberian Crab	229
Pumpkin Russet	221
Pumpkin Sweet	221
Pyrus Astracanica	225
Pyrus Baccata	228
Pyrus Pruifolia	228
Pyrus Spectabilis	229
Queen's	209
Queen Anne	166
Quince	181
Rambo	96
Raule's Jannet	99
Raule's Jannetting	99
Rariton Sweet?	172
Ray Apple	174
Ragan	182
Rambour d'Ete, or Summer Rambour	182
Rambour d'Ete	182
Ramsdell's Red Pumpkin Sweet	190
Ramsdell's Sweet	190
Rambour Franc	182
Red Russet	97
Red Canada	97
Red Astrachan	98
Red Spitzenburgh	101
Red Ashmore	114
Red Hazel	120
Red June	127
Red Quarrenden	134
Red Juneating	139
Red Pearmain	158
Red Spitzenburgh	158
Red Seek-no-further	159
Red Winter Pearmain	182
Red Lady Finger	182
Red Republican	182
Red Rance	183
Red Sweet	183
Red Cathead	183
Red Pumpkin Sweet	190
Red Calville	210
Red Doctor	211
Red Sweet Pippin	218
Red Pennock	220
Red Ingestrie	221
Red and Green Sweet	221
Red Pound Sweet	222
Red Gilliflower?	130
Red Streak	227
Read's Baker	218
Reinette de Misnie	209
Reinette Blanche d'Espagne	99
Reinette, Canada	99
Reinette du Canada Blanche	99
Reinette Grosse du Canada	99
Reinette du Canada à Cortes	99
Reinette d'Angleterre	146
Reinette d'Hollande	152
Reinette Bâtarde	209

	Page
Reinette Dorée	137
Reinette, Golden	183
Reinette d'Aix	183
Reinette Triomphante	222
Republican Pippin	184
Rebecca	182
Rhode Island Greening	100
Ribbed Pippin	79
Richfield Nonsuch	97
Richard's Graft	101
Richmond	102
Ribston Pippin	184
Ridge Pippin	184
Riest	185
River	185
Rival Golden Pippin	132
Richardson	184
Rough and Ready	93
Romanite	96
Rock Remain	99
Rock Rimmon	99
Rome Beauty	102
Roman Stem	103
Roxbury Russeting	104
Rockingham Red	113
Royal Pippin	127
Rockhill's Russet	184
Roadstown Pippin	185
Robey's Seedling	185
Roberson's White	185
Rockport Sweet	186
Rock Apple	186
Rock Sweet	186
Rollin	186
Romanite of the West	226
Round Catshead	211
Ross Nonpareil	222
Russet, American Golden	103
Russet, Boston or Roxbury	104
Russian	131
Russet Golden Pippin	146
Russian Emperor	206
Rum Apple	186
Russet English	187
Russet Pearmain	187
Rymer	222
Sailly Autumn	187
Sam Young	222
Sassafras Sweet	82
Sanguineus	94
Sack Apple	134
Sam Rawlings	215
Sam's Crab	216
Scarlet Perfume	129
Scarlet Pearmain	187
Scudamore's Crab	227
Seever	187
Seever's Red Streak	188
Seago	87
Settin Pippin	137
Seek-no-further	148
September	188
Sharpe's Early	194
Sheppard's Sweet	188
Shockley	188
Sharpe's Spice	78
Shirley	144
Shakers' Yellow	137
Sheep Nose	103
Sine-qua-non	188
Siberian Crab	228
Slingerland Pippin	189
Smalley	189
Smith's Cider	189
Small Romanite	226
Smokehouse	104
Smithfield Spice	136
Snowy Chimney	94
Sol. Carter	139
Sour Bough	195
Sops of Wine	189
Southern Greening	189
Spice	189
Spitzenburgh, Flushing	190
Spencer Sweeting	190
Spice Sweet	222
Sponge	223
Sprague	223
Spitzenburgh, Esopus	105
Stalclubs	199
Striped Sweet Pippin	163
Straudt	193
Stehly	193
Stillman's Early	193
St. Lawrence	193
Strode's Birmingham	193
Strodes	193
Sturmen Pippin	194
Steel's Sweet	223
Stroat	223
Straat	223
Steel's Red Winter	97
Strawberry	101
Styre	227
Striped Siberian Crab	230
Striped Juneating	139
Sterling Beauty	115
Sudlow's Fall Pippin	145
Summerour	175
Summer Horse	154
Sutton Beauty	190
Sugar Loaf Pippin	194
Sugar Sweet	194
Summer Hagloe	194
Summer Queen	194
Summer Sweet Paradise	195

	Page
Summer Pippin	195
Summer Bellflower	196
Summer Bellflower of Pa	196
Superb Sweet	196
Superb	196
Surprise	223
Summer Golden Pippin	223
Summer Pippin	152
Summer Bellflower	71
Summer Rose	106
Summer Pearmain	114
Summer Sweet	151
Swaar	107
Sweeting, Hartford	190
Sweeting, Ramsdell's	190
Sweeting, Tollman's	191
Sweeting, Well's	181
Sweet Rambo	191
Sweet Fall Pippin	192
Sweet Wine Sop	192
Sweet Romanite	192
Sweet Vandervere	192
Sweet Redstreak	192
Sweet Harvey	192
Sweet and Sour	223
Sweet Pearmain	150
Sweet June	151
Sweet Pippin	152
Sweet Wine	78
Sweet Harvest	86
Sweeting, Ladies'	106
Sweet Swaar	115
Sweet Golden Pippin	115
Sweet Cann	210
Sweet Russet	221
Sweet Maiden's Blush	226
Switzer Apple	180
Swiss Pippin	180
Table Greening	224
Tart Bough	74
Tallow Apple	166
Tenor Hills	118
Tetofsky	197
Tewksbury Winter Blush	197
Tift's Sweet	224
Titus Pippin	224
Tinmouth	197
Toccoa	197
Tompkins	136
Townsend	197
True Spitzenburgh	105
Transparent Pippin	132
Transparent de Muscovie	225
Trenton Early?	177
Travers'	184
Trader's Fancy	198
Trenton Early?	198
Tulpehocken	142
Turner's Green	148
Turn-off-Lane	224
Turkey Greening	224
Tuft's Baldwin	198
Twenty Ounce	198
Twenty Ounce Apple	198
Twitchell's Sweet	199
Uncle Sam's Best	78
Vandevere	199
Vandevere of New York	108
Vandevere of Pa.	199
Vandyne	199
Vandevere Pippin	199
Vaughan's Winter	200
Victorious Reinette	222
Virginia Greening	200
Victuals and Drink	200
Vrai Drap d'Or	136
Wahr Reinette	99
Wagener	110
Warren Pennock	137
Warter's Golden Pippin	146
Watson's Dumpling	224
Waddell Hall	188
Washington	189
Watson's Vandevere	199
Walker's Yellow	200
Walpole	201
Washington Royal	201
Waxen of Coxe	201
Westfield Seek-no-further	110
Week's Pippin	132
Wells—Striped R. I. Greening	135
Welcome	121
Wellington	212
Wetherill's White Sweet	224
Westchester Seek-no-further	165
Wellford's Yellow	201
Weston	201
Western Spy	201
White Pippin	203
White Bellflower	90
White Spanish Reinette	99
White Winter Pearmain	110
White Seek-no-further	148
White Hawthornden	149
White Calville	209
White's Loudon Pippin	165
White Vandevere	199
White Winter	202
White Juneating	202
White Doctor	202
White Spitzenberg	202
White Rambo	203
White Detroit	90
White Sweet	224
White Astrachan	225
Willow Leaf Pippin	90

	Page
Wine	101
William's Early	111
William's Red	111
William's Favorite	111
William Tell	180
William Penn	203
Winter Pippin of Geneva	111
Winter Jannetting	99
Winter Queen	77
Winter Pearmain	114
Winter Golden Sweet	117
Winter Seek-no-further	142
Winter Cheese	148
Winter Strawberry	224
Winter Queening	225
Winter Pippin of Vt	204
Winter Queen	225
Willis's Russet	203
Willow Twig	204
Winthrop Greening	204
Winthrop Pearmain	204
Winesap	112
Wine Sop	112
Wine Apple	204
Wing Sweet	225
Winn's Russet	204
Worden's Pie Apple	189
Woodpecker	71
Woodman's Song	90
Woodstock Pippin	208
Wood's Sweet	112
Wood's Huntingdon	132
Woolman's Harvest	106
Wolf's Den	116
Wollaton Pippin	131
Wormsley Pippin	225
Wonder	175
Wright Apple	205
Wyker Pippin	183
Wygers	183
Yacht	205
Yellow Meadow	205
Yellow Pearmain	205
Yellow Bellflower	72
Yellow Harvest	74
Yellow Jannett	99
Yellow	132
Yellow Siberian Crab	228
Yellow Hoss	154
Yellow Pippin	176
Yellow German Reinette	183
Yopp's Favorite	205
York Imperial	206
Yort	206
York Russet	221
Young's Long Keeping	212

APRICOTS.

	Page
Abricotier hâtif	241
Abricot Blanc	242
Abricotier Blanc	242
Abricotier	241
Abricot Pêche	239
Abricot Commun	240
Albergier	236
Alberge	236
Amygdalus Dasycarpa	237
Amande Aveline	236
Ananas	236
Angoumois?	237
Anson's	238
Anson's Imperial	239
Apricot Precoce	241
Apricot hâtif Musquée	241
Blenheim	241
Blanc	242
Black	237
Brown Masculine	241
Brussels	237
Breda	236
Burlington	237
D'Alexandrie	239
De Hollande	236
De St. Jean	238
De St. Jean Rouge	238
De Nancy	238
Du Luxemboury	239
Du Pape	237
Dunmore	238
Dunmore's Breda	238
Dubois' Early Golden	237
Early Golden	237
Early Orange	239
Early Masculine	241
Early White Masculine	242
Frühe Muscateher	241
Germine	240
Gros Precoce	238
Gros d'Alexandrie	238
Gro Fruhe	238
Grosse Germine	240
Hasselnussmandel	236
Hemskirke	238
Hunt's Moorpark	238
Lafayette	238
Large Early	238
Large Turkey	241
Moorpark	238
Musch-Musch	239
Noir	237
Oldaker's Moorpark	238
Orange	239
Pêche	239
Pêche Grosse	239
Peach	239

	Page
Persique	236
Persian	239
Pfirsiche	239
Precoce d'Esperin	238
Precoce d'Hongrie	238
Purple Apricot	237
Red Masculine	241
Ringgold	241
Roman	240
Royal Orange	239
Royal Persian	239
Royal Peach	239
Royal	240
Shipley's	241
Shipley's Large	241
Sudlow's Moorpark	238
Temple's	238
Texas	241
The Briançon	242
The Double Flowering	242
Transparent	240
Turkey	241
Violet	237
Walton Moorpark	238
White Masculine	242
White Apricot	242
White Algiers?	242
Wurtemburg	239

BERBERRIES.

Asperma	244
B. Rotundifolia	244
Berberis Aristata	244
Berberis Dulcis	244
Black Sweet Magellan	244
Common Red	243
Nepal	244
Seedless	244
Stoneless	244
The Mahonias	244
Vinetier sans Noyeau	244

CHERRIES.

A Courte Queue de Provence	275
Adam's Crown	268
Allerheiligen Kirsche	280
Allen's Sweet Montmorency	266
Amber, or Imperial	249
American Heart	253
Amber Gean	254
American Amber	254
Amber Heart	261
Ambér à Petit Fruit	271
Anne	254
Ansell's Fine Black	256
Anglaise Tardive	272
Apple Cherry	270
Arch Duke	272
Arden's Early White Heart	261
Baumann's May	254
Benham's Fine Early Duke	273
Belle d'Orleans	248
Belle Agathe	269
Belle de Sceaux	278
Belle Vezzouris	278
Belle Magnifique	272
Belle et Magnifique	272
Belle de Chatenay	272
Belle de Sceaux	272
Belle de Rocmont	269
Belle de Rocmont ?	252
Belle de Bevay	273
Bigarreau	249
Bigarreau, Napoleon	249
Bigarreau, Couleur de Chair	252
Bigarreau d'Esperin	256
Bigarreau, White	257
Bigarreau Gros Cœuret	257
Bigarreau, Large Red	269
Bigarreau, China	269
Bigarreau Black	269
Bigarreau Tardif de Hildesheim	258
Bigarreau Marbré de Hildesheim	258
Bigarreau Blanc Tard de Hildesheim	258
Bigarreautier à Feuilles de Tabac	271
Bigarreautier à Grandes Feuilles	271
Bigarreau Royal	249
Bigarreau Gros ?	249
Bigarreau Tardif	249
Bigarreau Lauermann	249
Bigarreau à Gros Fruit Blanc	252
Bigarreau de Rocmont	252
Bigarreau de Mai	254
Bigarreau Noir de Savoi	256
Bigarreau Blanc ?	257
Bigarreau Gabalis	262
Bigarreau Gros Noir	267
Bigarreau à Gros Fruit Rouge	269
Bigarreau Noir	269
Bigarreau Gros Monstreux	257
Black Tartarian	250
Black Circassian	250
Black Russian	250
Black Eagle	255
Black Heart	256
Black Bigarreau of Savoy	256
Black Hawk	254

	Page
Black Mazzard	255
Black Honey	255
Black Russian	256
Black Caroon	256
Black Spanish	279
Black Orleans	269
Bleeding Heart	269
Bloodgood's Amber	254
Bloodgood's Honey	254
Bloodgood's New Honey	254
Bowyer's Early Heart	257
Bouquet Amarelle	278
Bristol Cherry	255
Brant	258
Brandywine	258
Brenneman's Early	267
Burr's Seadling	258
Buttner's Black Heart	258
Büttner's Yellow	269
Büttner's Wachs-Knorpel Kirsche	269
Büttner's Gelbe-Knorpel Kirsche	269
Buchanan's Early Duke	273
Buttner's October Morello	278
Busch Weichsel	278
Büschel Kirsche	278
Bullock's Heart	271
C. Vulgaris, Semperplorens	280
Carmine Stripe	258
Caroline	259
Carnation	274
Cerise Ambrée	249
Cerasus Avium	255
Cerisier de 4 à Livre	271
Cerise Guigne	273
Cerise Nouvelle d'Angleterre	274
Cerise de Portugal	274
Cerise Courte Queue	275
Cerise du Nord	277
Cerise à Bouquet	278
Cerisier à Trochet	278
Cerisier Nain à Fruit Rond	278
Cerisier Nain Précoce	278
Cerise Indulle	278
Cerasus Sylvestris, Flore Pleno	279
Cerisier à Fleurs Doubles	280
Cerasus Serrulata	280
Cerise de la Toussainte	280
Cerise Tardive	280
Cerisier Pleurant	280
Cerise de St. Martin	280
Cerasus Virginiana	280
Cerasier de Virginie	280
Champagne	259
Chinese Heart	269
Cherry Duke	273
Christiana and Mary	275
Chatenay	278
Chevreuse	278
Chinese Double Flowering	280
Cleveland	259
Cleveland Bigarreau	259
Cluster	278
Coe's Transparent	250
Coe's Late Carnation	275
Cœur de Pigeon	252
Common English	255
Conestoga	259
Corone	269
Couronne	269
Coroun	269
Coularde	273
Common Red	276
Commune	276
Commune à Trochet	278
Common Sour Cherry	279
Crown	274
Cumberland's Seedling	267
Davenport	259
Davenport's Early	259
De Hollande	273
D'Espagne	273
De Spe	278
Delicate	251
Downer's Late	251
Downer	251
Downer's Late Red	251
Downing's Red Cheek	260
Doctor	260
Downton	260
Double Volgers	275
Double French Cherry	279
Double Flowering Kentish	280
Dredge's Early White Heart	261
Duchess de Palluau	275
Dutch Morello	277
Dwarf Double Flowering	280
Early Purple Guigne	251
Early Purple Griotte	251
Early Black	256
Early Prolific	261
Early White Heart	261
Early Duke	273
Early Richmond	276
Early May	278
Elizabeth	261
Elliott's Favorite	261
Elkhorn	267
Elkhorn of Maryland	267
Elton	252
English Weichsel ?	275
English Morello	277
Ever Flowering Cherry	280
Favorite	261
Flesh-colored Bigarreau	252

	Page
Florence	261
Flemish	275
Flandrische Weichsel	278
Four to the Pound	271
Frühe Kleine Runde Zwerg Weichsel	278
Fraser's Black Tartartan	250
Fraser's Black Heart	250
Fraser's Black	250
Fraser's Tartarische	250
Fraser's White Tartarian	271
Fraser's White Transparent	271
Gascoigne's Heart	269
German Mayduke	251
Gean Amber	254
Gifford's Seedling	270
Governor Wood	252
Gobet à Courte Queue	275
Graffion	249
Groote Princess	249
Gros Bigarreau, Coulzur de Chair	252
Gros Bigarreau Blanc	252
Great Bigarreau?	253
Griotte de Portugal	272
Grosse Schwarze Hertz Kirsche	256
Gros Cœuret	257
Great Bigarreau of Mezel	262
Gross Schwarze Knoorpel	267
Gros Bigarreau Rouge	269
Gridley	270
Griotte Grosse Noir	273
Griotte d'Espagne	273
Griotte Précoce	273
Grosse Cerise Rouge Pâle	274
Griottier Rouge Pâle	274
Griottier de Villennes	274
Gros Gobet	275
Griotte Ordinaire du Nord	277
Griottier à Bouquet	278
Griottier Nain Précoce	278
Guigne Noir Luisante	279
Guignier a Rameaux Pendans	280
Guignier à Feuilles de Tabac	271
Guigne Noir Tardive	267
Guinier à Fruit Noir	256
Guigne Grosse Noir	256
Guigne Rouge Hative	269
Harrison Heart?	257
Hative	278
Herz Kersche	268
Herefordshire Black	269
Herefordshire Heart	269
Herefordshire White	261
Hildesheimer Ganz Späte Knorpel Kirsche	258
Hildesheimer Späte Herz Kirsche	358
Hildesheim Bigarreau	258
Hoadley	262
Hollandische Grosse	249
Holland Bigarreau?	249
Holman's Duke	273
Honey	270
Hovey	262
Hyde's Late Black	262
Hyde's Red Heart	270
Imperial Morello	279
Italian Heart	249
Jaune de Prusse	270
Jeffrey's Duke	275
Jeffrey's Royal	275
Jeffrey's Royal Caroon	275
Jocosot	262
Keokuk	263
Kennicott	263
Kentish	276
Kentish, or Flemish	276
Kentish Red	279
Kirtland's Large Morello	276
Kirtland's Mammoth	263
Kirtland's Mary	263
Kirsche Mit Säftigen Fleisch	267
Knevett's Late Bigarreau	261
Knight's Early Black	263
Königliche Amarelle	278
Lauermann's Grosse Kirsche	249
Lauermann's Kirsche	249
Lauermann's Herz Kirsche	249
Large Heart-shaped Bigarreau	252
Large Red Prool?	253
Large White Bigarreau	257
Large Heart-shaped Bigarreau	257
Late Bigarreau	264
Large Double Flowering	279
Large Black Bigarreau	267
Large Wild Black	269
Large Mayduke	273
Large Morello	276
Late Kentish	279
Late Arch Duke	272
Late Duke	272
Large Honey	270
Late Honey	270
Lady Southampton's Yellow	270
Lady Southampton's Duke	270
Lady Southampton's Golden Drop	270
Leather Stocking	264
Lemercier	273
Lion's Heart	271
Logan	264
Louis Phillip	279
Lundie Gean	270
Mayduke	273
Mazzard	255

	Page
May Cherry	278
Martin's Weichsel	280
Magnifique de Seeaux	272
Manning's Early Blackheart	270
Manning's Late Black	264
Manning's Mottled	264
Madison Bigarreau	264
Merry Cherry	255
Merisier à Petit Fruit	255
Merisier à Petit Fruit Noir	255
Merisier à Fleurs Doubles	279
Merisier à Fruit Blanc	270
Merville de Septembre	271
Millett's Late Heart Duke	273
Milan	277
Montrous de Mozel	262
Mottled Bigarreau	264
Morris Duke	273
Morris's Early Duke	273
Monstrous de Bevay	273
Montmorency	275
Montmorency à Gros Fruit	275
Montmorency	276
Montmorency à Longue Queue	276
Morello	277
Monats Amarelle	280
Monstrous May	267
Muscat de Prague	276
New Large Black Bigarreau	256
New Mayduke	259
Oehsen Herz Kirsche	271
Ohio Beauty	265
Osceola	265
Ox Heart	271
Petite Cerise Rouge Précoce	278
Pierce's Late	265
Pie Cherry	279
Plumstone Morello	277
Portugal Duke	272
Pontiac	265
Powhatan	265
President	265
Proudfoot	265
Prinzessin Kirsche	249
Précoce	278
Prunus Cerasus Pleno	279
Ramsey's Late Morello	279
Remington	271
Remington White Heart	271
Remington Heart	271
Red Heart	269
Red Jacket	266
Reine Hortense	273
River's Early Heart	271
River's Early Amber	271
Richardson	266
Robert's Red Heart	266
Ronald's Large Black Heart	250
Ronald's Heart	250
Rockport	253
Rockport Bigarreau	253
Royale Hâtive	273
Royale	275
Royale Ordinaire	275
Ronald's Large Morello	277
Royal Duke	277
Royale Anglaise Tardive	277
Schwarze Herz Kirsche	250
September Weichsel Grosse	277
Serrulated Leaved Cherry	280
Shannon	277
Size à la Livre	273
Small Wild Black	255
Small May	278
Small Double Flowering	280
Spanish Black Heart	256
Späte Hildesheimer Marmor Kirsche	258
Spanish Yellow	270
Sparhawk's Honey	266
Sparrowhawk's Honey	266
St. Martin's Amarelle	280
Street's May	267
Superb Circassian	250
Sussex	276
Swedish	261
Sweet Montmorency	266
Tartarian	250
Tardive de Mons	271
Tecumseh	267
Thompson's Duke	273
Tobacco Leaved	271
Townsend	268
Tres Fertile	278
Trauben Amarelle	278
Tradescant's Black Heart	267
Tradescant's	267
Transparent Guigne	267
Transparent Gean	267
Transparent	267
Triumph of Cumberland	267
Turkey Bigarreau?	249
Turkey Bigarreau	257
Vail's August Duke	274
Very Large Heart	271
Vier auf ein Pfund	271
Virginisch Kirsche	280
Virginian Wild Cherry	280
Virginian May	276
Wax Cherry	274
Wendell's Mottled Bigarreau	268
Werder's Early Black Heart	268
Werdsche Frühe Schwarze	268
West's White Heart	249
Weichsel mit Gauzkurzen Stiel	275
Weeping, or Allsaints	280

	Page
White Tartarian	271
Whixley Black	255
White Ox Heart	257
White Bigarreau	257
White Heart	261
White Transparent	261
Wild Cherry	280
Wilder's Bigarreau de Mai	254
Wild English Cherry	255
Wild Black Fruited	255
Yellow Spanish	249
Yellow Honey	270
Yellow, or Golden	270
Yung To	280

CURRANTS.

	Page
Attractor	283
Blanc Transparent	285
Black English	286
Black Naples	286
Casis	286
Champagne	283
Cherry	283
Common Black	286
Fertile Currant of Palluau	283
Goliath	285
Gondoin Red	283
Gondoin White	284
Grossellier à Fruit Couleur de Chair	283
Grosse Rouge de Holland	284
Grosse Weiss und Rothgestreifte Johannesbeere	285
Grossillier Rouge à Gros Fruit	284
Houghton Castle	285
Knight's Sweet Red	284
Knight's Early Red	284
Knight's Large Red	284
Large Fruited Missouri	286
Large Bunched Red	284
Large Red Dutch	284
La Versaillaise	284
La Hâtive	284
La Fertile	284
Long Bunched Red	284
May's Victoria	285
Missouri	286
Morgan's White	286
Morgan's Red	284
New White Dutch	286
New Red Dutch	284
Pleasant's Eye	283
Prince Albert	284
Red Flowering	286
Red Dutch	284
Red Grape	285
Red Provens	285
Reeve's White	286
Rubey Castle	285
Short Bunched Red	285
Striped Fruited	285
Transparent	285
Victoria	285
White Clinton	285
White Antwerp	285
White Grape	285
White Dutch	286
White Crystal	286
White Leghorn	286

FIGS.

	Page
Angelique	293
Bayswater	291
Black Naples	291
Black Ischia	291
Black Genoa	292
Blue Ischia	291
Bordeaux	292
Brown Hamburgh	291
Brown Naples	291
Brown Italian	291
Brown Ischia	292
Brown Turkey	291
Brunswick	291
Chestnut	292
Chestnut-colored Ischia	292
Clementine	291
Concourelle Blanche	293
Early Forcing	291
Figue Blanche	293
Ford's Seedling	293
Green Ischia	293
Hanover	291
Italian	291
Large Blue	291
Large White Genoa	293
Lee's Perpetual	291
Madonna	291
Malta	292
Marseilles	293
Murrey	291
Nerii	293
Pocock	293
Pregussata	293
Red	291
Small Brown	292
Small Brown Ischia	292
Violette	292
Violette de Bordeaux	292
White Marseilles	293
White Naples	293
White Standard	293
White Ischia	293

GOOSEBERRIES.

	Page
Berry's Greenwood	297
Boardman's British Crown	296
Buerdsill's Buckwing	297
Capper's Top Sawyer	297
Capper's Bunker Hill	297
Capper's Bonny Lass	298
Catherine	299
Champagne	297
Cleworth's White Lion	298
Cook's White Eagle	298
Companion	298
Conquering Hero	298
Colliers' Jolly Angler	297
Crompton Sheba Queen	298
Dan's Mistake	298
Drill	299
Early Green Hairy	297
Eagle	299
Edward's Jolly Tar	298
Farrow's Roaring Lion	297
Freedom	299
General	298
Glenton Green	298
Gorton's Viper	297
Goldfinder	299
Green Gascoigne	297
Green Walnut	298
Gunner	299
Hartshorn's Lancashire Lad	297
Hapley's Lady of the Manor	298
Hepburn Green Prolific	298
Hill's Golden Gourd	297
Houghton's Seedling	299
Keen's Seedling	297
Keepsake	298
Lady Leicester	299
Leigh's Rifleman	297
Leader	299
Lion's Provider	298
London	298
Massey's Heart of Oak	298
Melling's Crown Bob	297
Miss Bold	297
Napoleon le Grand	298
Part's Golden Fleece	297
Parkinson's Laurel	298
Peru	299
Pitmaston Green Gage	298
Prophet's Rockwood	297
Queen of Trumps	299
Red Warrington	297
Saunder's Cheshire Lass	298
Snowdrop	299
Tally Ho	299
Taylor's Bright Venus	298
Thumper	298
Turnout	298
Wainman's Green Ocean	298
Weathercock	298
Wellington's Glory	298
White Honey	298
Woodward's White Smith	298
Yellow Champagne	297
Yellow Ball	297

GRAPES.

	Page
Alicant	319
Aleppo	328
Alexander's	333
Aleatica du Po	322
Amber Muscadine	324
Amiens	324
American Muscadine	345
Ansell's Large Oval Black	320
Auverne	318
Auverna	318
Auvernes Rouge	318
August Traube	321
Black Cluster	318
Black Frontignan	318
Black Hamburgh	319
Black Prince	319
Black Lombardy	320
Black Morocco	320
Black St. Peter's	320
Black Muscat of Alexandria	320
Black Tripoli	320
Black Muscadine	321
Black Sweetwater	321
Black Morillon	318
Black Burgundy	318
Black Constantia	318
Black Spanish	319
Black Valentia	319
Black Portugal	319
Black Lisbon	319
Black Muscadel	320
Black Palestine	320
Black Grape from Tripoli	320
Black Chasselas	321
Blacksmith's White Cluster	324
Blanc de Bonneuil	323
Bland's Virginia	333
Bland's Pale Red	333
Bland's Madeira	333
Bland	333
Blue Trollinger	319
Bourdales des Hautes Pyrénées	318
Boston	319
Brinckle	334
Brown Hamburgh	319
Burguider	321
Bull, or Bullet	345

	Page
Burgunder	318
Cambridge Botanic Garden	319
Cape Grape	333
Canadian Chief	334
Canby's August	334
Cassady	334
Catawba	334
Catawba Tokay	334
Chasselas Musqué	323
Chasselas Noir	321
Chasselas Doré	324
Chasselas Blanc	324
Chasselas de Fontainebleau	324
Chasselas Precoce	326
Chasselas Royal	326
Chasselas Rouge	329
Chasselas Panaché	328
Charlsworth Tokay	323
Child's Superb	335
Child's Seedling	335
Ciotat	323
Clara	335
Clifton's Constantia	333
Clinton	335
Columbia	335
Concord	335
Cumberland Lodge	321
D'Arbois	324
De St. Jean	321
Delaware	335
Diana	338
Dutch Hamburgh	319
Dutch Sweetwater	326
Early Black July	321
Early White Malvasia	323
Early Chasselas	323
Early White Teneriffe	324
Early Sweetwater	326
Early White Muscadine	326
Early Black	318
Elsingburgh	338
Elsenborough	338
Emily	338
Esperione	321
Farineux Noir	322
Fintindo	322
Flame Colored Tokay	329
Fleish Traube	319
Fox Grape	345
Franc Pineau	318
Frankendale	319
Frankenthaler	319
Frankenthaler Gros Noir	319
Fromenté	322
Frontniac of Alexandria	325
Garrigues	339
Genuine Tokay	326
Gibaralter	319
Golden Chasselas	324
Grove End Sweetwater	323
Gray Tokay?	326
Graham	339
Grauer Muscateller	328
Grizzly Frontignac	328
Grizzly Frontignan	328
Grosser Riessling	327
Hartford Prolific	339
Hampton Court Vine	319
Hardy Blue Windsor	321
Heath	335
Herbemont	339
Herbemont's Madeira	339
Hudler	319
Hudson	340
Hyde's Eliza	340
Isabella	340
Jacob's Straube	321
Jack	342
Jews	325
Jerusalem Muscat	325
July Grape	321
Kleier Rissling	327
Knight's Variegated Chasselas	328
Kümmel Traube	328
Languedoc	319
Le Cœur	320
Le Meunier	322
Le Cour	323
Le Melier	323
Longworth's Ohio	342
Louisa	341
Lombardy	329
Lunel	325
Lyman	341
Madeline	321
Madeline Noir	321
Malmsey Muscadine	323
Madeira Wine Grape	325
Malaga	325
Mammoth Catawba	341
Marion	341
Madeira	333
Maurillan Panaché	328
Maurillan Noir Panaché	328
Melier Blanc	323
Miller's Burgundy	322
Miller Grape	322
Miner's Seedling	346
Missouri	341
Missouri Seedling	341
Mohrendutte	319
Money's	320
Morillon Hâtif	321
Morillon Taconné	322
Morillon Noir	318
Morone Farinaccio	322

	Page
Morna Chasselas	323
Mornair Blanc	323
Moschata Bianza	326
Moscado Bianco	326
Moscatel Commun	326
Muscat Noir	318
Muscat Noir Ordinaire	318
Muscat Noir de Jura	318
Muscat d'Alexandria	325
Muscat Blanc	326
Muscat Blanc de Jura	326
Muscat Rouge	328
Muscat Gris	328
Muscado Rosso	328
Muscateller	326
Müller	322
Mullevrebe	322
Musk Chasselas	323
Nepean's Constantia	326
Norton's Seedling	342
Norton's Virginia	342
Noirin	322
Northern Muscadine	342
Ohio	342
Oldaker's West's Saint Peter's	320
Parsley-leaved	323
Parsley-leaved Muscadine	323
Passe-longue Musqué	325
Passe Musqué	325
Petit Riessling	327
Pitmaston White Cluster	324
Pineau	318
Pocock's Damascus	319
Poonah	320
Powell	333
Purple Frontignan	318
Purple Canstantia	318
Purple Hamburgh	319
Pulverulenta	322
Raabe	343
Raisin des Carmes	320
Raisin des Cuba	320
Raisin d'Espagne	320
Raisin Précoce	321
Raisin de Bourgne	318
Raisin d'Autriche	323
Raisin de Champagne	324
Raisin de Frontignan	326
Raisin Suisse	328
Raisin d'Aless	328
Rebecca	343
Red Chasselas	329
Red Hamburgh	319
Red Muscat of Alexandria	320
Red Frontinac of Jerusalem	320
Red Resling	335
Red Scuppernong	333
Red Muncy	334
Red Muscadine	329
Red Frontignan	328
Red Constantia	328
Red Grape of Taurida	329
Reissling	327
Rebibo	325
Rhemish Red	329
Rössling	327
Rother	318
Royal Muscadine	324
Roanoake	345
Rudeshimerberg	327
Salisbury Violet	319
Saint Peter's	320
Sauvignien Noir	322
Scuppernong	345
Schuylkill Muscadell	333
Schuylkill Muscadine	333
Schloss Johannisberg	327
Schiras	322
Schwarzer Frühzeitiger	321
Schwartzer	318
Scotch White Cluster	324
Segar Box	342
Sir William Romley's Black	318
Sir A. Pytches' Black	319
Small Black Cluster	318
Spring Mill Constantia	333
Steward's Black Prince	319
Styrian	325
Stillward's Sweetwater	326
Striped Muscadine	328
Switzerland Grape	328
Swart's Elsenburg	338
Tasker's Grape	333
Tokai Blanc	326
To-Kalon	345
Tontenham Park Muscat	325
Traminer	335
True Burgundy	318
Trollinger	319
Troller	319
Turner's Black	321
Valentine's	319
Variegated Chasselas	328
Venango	346
Verdelho	325
Verdal	325
Verdilhio	325
Vitis Vulpina	345
Vitis Rotundifolia	345
Victoria	319
Vrai Auvèrnas	318
Warner's Black Hamburgh	319
Water Zoet Noir	321
Water Zoete Blanc	326
Wantage	329
Warren	339

	Page
Warrenton	339
Weisse Muscaten Traube	326
Welscher	319
Weissholziger Trollinger	319
West's St. Peter's	320
White Muscat of Alexandria	325
White Frontignan	326
White Sweetwater	326
White Tokay	326
White Hamburgh	327
White Nice	327
White Rissling	327
White Catawba	346
White Parsley-leaved	323
White Melier	323
White Chasselas	324
White Muscat	325
White Muscat of Lunel	325
White Constantia	326
White Frontniac	326
White Muscadine	326
White Lisbon	327
White Portugal	327
White Raisin	327
Wiesser Muscateller	326
Winnie	333
York Madeira	346

1. MELONS.

Beechwood	688
Black Rock	688
Christiana	688
Citron	687
Early Cantelope	688
Franklin's Green-Fleshed	688
Green Hoosainee	689
Improved Green-Flesh	688
Keising	688
Large Germek	689
Netted Cantelope	688
Nutmeg	687
Pine Apple	688
Rock Cantelope	688
Skillman's Fine Netted	688
Sweet Ispahan	689

2. WATER-MELONS.

Apple Seeded	691
Bradford	690
Carolina	689
Clarendon, or Dark Speckled	690
Ice Cream	691
Imperial	689
Mountain Sprout	691
Mountain Sweet	691
Odell's Large White	690
Orange	691
Ravenscroft	690
Sonter	690
Spanish	690
The Citron Water-Melon	690

MULBERRIES.

Black, or English	347
Johnson	347
Red	347

NECTARINES.

Anderson's	650
Anderson's Round	650
Aromatic	649
Black Murry	647
Black	650
Boston	645
Broomfield	649
Brugnon Red at the Stone	649
Brugnon Hâtive	649
Brugnon de Newington	650
Brugnon Violette Musquée	651
Brugnon Musquée	651
Claremont	646
Common Elruge	646
Cowdray White	647
D'Angleterre	650
Downton	645
Du Tilly's	645
Duc du Tellier's	645
Duc Tilliers	645
Duc de Tello	645
Duke de Tilley	645
Early Black	650
Early Black Newington	650
Early Brugnon	649
Early Violet	649
Elruge	646
Emerton's New White	647
Fairchild's	646
Fairchild's Early	646
Fine Gold-Fleshed	650
Flanders	647
Forsyth	651
French Newington	650
Golden	650
Hardwicke's Seedling	647
Hardwicke Seedling	647
Hampton Court	649
Hunt's Tawny	646

	Page
Hunt's Large Tawny	646
Hunt's Early Tawny	646
Large White	647
Large Scarlet	649
Late Green	648
Lewis's	645
Lewis	649
Lord Selsey's Elruge	649
Lucombe's Black	650
Lucombe's Seedling	650
Murrey	647
Murry	647
Neat's White	647
New Scarlet	649
New White	647
New Dark Newington	650
New Early Newington	650
Newington	650
Newington Early	650
Oatlands	646
Old White	648
Old Roman	651
Old Newington	650
Orange	650
Perkin's Seedling	645
Peterborough	648
Petite Violet Hâtive	649
Peterborough	646
Pitmaston's Orange	648
Red Roman	651
Roman	651
Rough Roman	650
Scarlet Newington	650
Scarlet	650
Sion Hill	650
Smith's Newington	650
Spring Grove	646
Stanwick	648
Temple's	646
Vermash	648
Violette Hâtive	649
Violet	649
Violet Red at the Stone	649
Violet Musk	649
Violette Angervillières	649
Violette Musquée	649
Williams' Orange	648
Williams' Seedling	648

NUTS.

	Page
Chestnut	349
Chinquapin, or Dwarf Chestnut	349
Cosford Filbert	349
European Walnut	348
Filbert	348
Frizzled Filbert	349
Hickory Nut	348
Northamptonshire Prolific Filbert	349
Red Filbert	349
White Filbert	349

OLIVES.

	Page
Broad-leaved	697
Long-leaved	697
Olivier à Fruit Arrondi	697
Olivier Pleureur	697
Olivier Picholine	697
Wild American	696

ORANGE FAMILY.

1. *Oranges.*

	Page
Bergamot	694
Blood Red	693
Common Sweet	693
Fingered	694
Maltese	693
Mandarin	693
Pear-shaped	694
Ribbed	694
Seville	694
St. Michael's	693
Sweet-skinned	694

2. *Lemons.*

	Page
Common	694
Sweet	694

3. *Limes.*

	Page
Common	694
Pomo d'Adamo	694

4. *Citrons.*

	Page
Madras	695

PEACHES.

	Page
Abricotée	629
Acton Scott	607
Admirable Tardive	609
Admirable Jaune	629
Admirable	613
Alberg Jaune	634
Anne	611
Algiers Yellow	639
Algiers Winter	639
Apricot Peach	629
Astor	607
Avant Rouge	622

	Page
Avant Pêche de Troyes	622
Avant Blanche	623
Batchelder	607
Baugh	608
Baldwin's Late	607
Barrington	607
Balian	619
Baxter's Seedling	617
Belle de Vitry	609
Belle Beauté	616
Belle Bausse	616
Bellis	609
Bellegarde	608
Bergen's Yellow	629
Blood Clingstone	635
Blood Cling	635
Blanton Cling	635
Bourdine	619
Boudin	619
Bordeaux Cling	635
Brevoort	608
Brevoort's Morris	608
Brevoort's Seedling Melter	608
Brentford Mignonne	608
Brown Nutmeg	622
Briggs	609
Buckingham Mignonne	607
Cambridge Belle	609
Carpenter's White	609
Catherine	636
Chancellière	609
Chancellor	609
Chinese Cling	636
Chinese Peach	643
Claret Clingstone	635
Clinton	610
Colonel Ausleys	607
Cole's Early Red	610
Columbus, June	610
Cole's White Melocoton	620
Columbia	629
Coxe	614
Cooledge's Favorite	610
Cooledge's Early Red Rareripe	610
Crawford's Early Melocoton	630
Crawford's Early	630
Crawford's Late Melocoton	630
Crawford's Superb Malacatune	630
Cut-Leaved	614
D'Abricot	629
D'Orange	629
Double Montagne	610
Double Mountain	610
Dorsetshire	622
Double Swalsh	625
Donahoo Cling	636
Double Blossomed	642
Double Flowering Peach	642
Druid Hill	611
Early Anne	611
Early Tillotson	611
Early York	612
Early Newington Freestone	612
Early Sweet Water	613
Early Malden	613
Early Admirable	613
Early Chelmsford	614
Early Royal George	608
Early Garlande	608
Early Purple	612
Early Newington	612
Early Crawford	630
Early Purple Avant	616
Early May	616
Early Vineyard	616
Early Newington	641
Early Bourdine	625
Early Royal George	625
Early Red Rareripe	624
Early White Nutmeg	623
Early Red Nutmeg	622
Edgar's Late Melting	609
Edward's Late White	614
Eliza Peach	630
Elmira Cling	636
Emperor of Russia	614
Favorite	614
Favorite Red	614
Fine Heath	637
Flat Peach of China	643
Flewellen Cling	636
Fox's Seedling	615
Freestone Heath	618
French Chancellor	625
French Bourdine	619
French Magdalen	619
French Mignonne	616
French Royal George	608
Fulkerson	615
Fulkerson's Early	615
Galande	608
George the Fourth	615
Gorgas	615
Golden Mignonne	634
Gold Fleshed	634
Green Nutmeg	611
Griffith	633
Green Catharine	616
Grosse Mignonne	616
Grimwood's Royal George	616
Grimwood's New Royal George	616
Gros Mélocoton	640
Gros Persique Rouge	640
Grosse Jaune Tardive	629
Griffin's Mignonne	625
Grimwood's Royal Charlotte	625

	Page
Haines' Early Red	616
Hastings' Rareripe	617
Hâtive de Ferrières	617
Hatch	631
Heath	637
Heath Clingstone	637
Henry Clay	617
Hero of Tippecanoe	642
Hoffman's Pound	620
Hogg's Melocoton	632
Horton's Delicious	637
Hovey's Cambridge Belle	609
Hull's Athenian	638
Hyslop	637
Hyslop's Clingstone	637
Incomparable	638
Itelle de Paris	619
Jane	617
Jacques' Rareripe	631
Jacques' Yellow Rareripe	631
Jackson Cling	638
Java Peach	643
Johnson's Early Purple	616
Jones' Early	617
Jones' Large Early	617
Judd's Melting	619
Kenrick's Heath	618
Kennedy's Carolina	639
Kennedy's Lemon Clingstone	639
L'Admirable	613
La Royal	616
La Royale	619
La Grange	618
Large Violet	608
Large American Nutmeg	613
Large French Mignonne	616
Large Yellow Rareripe	634
Large Newington	639
Large Red Rareripe	620
Large White Clingstone	638
Largest Lemon	639
Late Admirable	619
Late Yellow Alberg	639
Late Chancellor	609
Late Purple	619
Late Admirable Cling	638
Lady Parham	618
Lady Ann Steward	620
Lemon Clingstone	639
Lincoln	631
Lockyer's Mignonne	625
Long Yellow Pineapple	639
Lord Montague's Noblesse	622
Lord Nelson's	625
Lord Fauconberg's Mignonne	625
Luscious White Rareripe	620
Madeleine de Courson	619
Madeleine Rouge	619
Madeleine Rouge Tardive	625
Madeleine Rouge à Moyenne Fleur	625
Madeleine à Petite Fleur	625
Madeleine Rouge à Petite Fleur	625
Malta	619
Malte de Mormandie	619
Mammoth	614
Malagatune	632
Malacatune	632
Marie Antoinette	634
Merriam	631
Mellish's Favorite	622
Millett's Mignonne	625
Mignonne	616
Montgomery's Late	621
Monstrous Pomponne	640
Monstrous Pavie	640
Montagne	610
Montauban	610
Molden's White	621
Moore's Favorite	621
Moore's June	621
Morris's Red Rareripe	620
Morris's White Rareripe	620
Morris Red	620
Morris's White	620
Morris's White Freestone	620
Morrisania Pound	620
Morrison's Pound	620
Motteux's	619
Mrs. Poinsette	631
Narbonne	619
New Cut-Leaved	614
New Royal Charlotte	625
New Early Purple	625
New York White Clingstone	638
Newington	639
Newington Peach	612
Neil's Early Purple	616
Nivette Veloutée	622
Nivette	622
Noisette	609
Noir de Montreuil	608
Noblesse	622
Nutmeg, Red	622
Nutmeg, White	623
October Yellow	639
Old Newington	639
Oldmixon Freestone	623
Oldmixon Clearstone	623
Oldmixon Clingstone	640
Oldmixon Cling	640
Orange Clingstone	640
Owen	631
Owen's Lemon Rareripe	631
Pace	629
Pavie de Pompone	640

	Page
Pavie Admirable	638
Pavie de Pomponne Grosse	640
Pavie Monstreux	640
Pavie Rouge de Pomponne	640
Pavie Camu	640
Pêche Royale	619
Pêche Malte	619
Pêche Jaune	634
Pêcher à Fleurs Doubles	642
Pêcher à Fleurs Semi-Doubles.	642
Peen To	643
Pineapple Clingstone	639
Pourprée Hâtive	612
Pourprée de Normandie	616
Pourprée Tardive	619
Poole's Late Yellow Freestone.	632
Poole's Large Yellow	632
Prince's Climax	641
Prince's Paragon	624
Prince's Excelsior	632
Prince's Red Rareripe	624
President	623
President Church	623
Purple Avant	616
Purple Alberg	634
Rareripe, Late Red	624
Red Rareripe	624
Red Cheek Melocoton	632
Red Rareripe	620
Red Avant	622
Red Alberg	634
Red Heath	637
Red Cheek Malocoton	632
Red Magdalen	608
Reid's Weeping Peach	643
Reeve's Favorite	633
Ronald's Mignonne	608
Rosebank	625
Rose	626
Rose Flowering	642
Rouge Paysanne	619
Royal George	625
Royal Charlotte	625
Royal Kensington	616
Ronald's Seedling Galande	616
Royal Sovereign	616
Royale	619
Scott's Early Red	625
Scott's Magnate	626
Scott's Nectar	626
Scott's Nonpareil	633
Selby's Cling	638
Serrated	614
Serrate Early York	612
Shanghae	641
Smooth-leaved Royal George	608
Smith's Favorite	633
Smith's Newington	641
Smock Freestone	633
Snow	626
Stewart's Late Galande	609
Stetson's Seedling	626
Strawberry	626
Stump the World	627
St George	633
Stephenson Cling	641
Superb Royal	616
Superb	625
Susquehanna	633
Sweet Water	613
Swiss Mignonne	616
Téton de Venus	619
Tippecanoe	642
Titus	634
True Red Magdalen	619
Tuft's Rareripe	634
Unique	614
Van Zandt's Superb	627
Vanguard	622
Velutée Tardive	622
Veloutée de Merlet	616
Violette Hâtive	608
Violette Hâtive Grosse	608
Vineuse de Fromentin	616
Vineuse	616
Washington	628
Washington Red Freestone	628
Washington Clingstone	642
Walter's Early	627
Walburton Admirable	627
Ward's Late Free	627
Weeping Peach	643
White Imperial	628
White-Blossomed Incomparable	628
White Rareripe	620
White Melocoton	620
White Avant	623
White Blossom	628
Willow Peach	628
Williamson's New York	638
Yellow Alberg	634
Yellow Rareripe	634
Yellow Admirable	629
Yellow Malocoton	632
Yellow Malagatune	632
Yellow Rareripe	634
Yellow Pineapple	639

PEARS.

Abbé Mongein	448
Abbé Edonard	448
Abbott	448
Adams	449
Adèlaide de Rèves	449

	Page
A Courte Queue	436
Ah! Mon Dieu	571
Alexander	449
Alexandre Lambre	449
Almond Pear	466
Alpha	449
Althrope Crassane	563
Amadotte	563
Ambrosia	563
Amoselle	564
Amire Joannet	450
Amiral	452
Amory	451
Ananas	450
Ananas de Courtral	450
Ananas d'Ete	450
Ananas d'Hiver	532
Andrews	451
Angleterre	563
Arbre Courbe	452
Archduc d'Ete?	450
Aston Town	563
Auguste Royer	453
Autumn Colmar	570
Autumn Colmar	453
Auguste Van Krans	543
Badham's	471
Barry	453
Bartlett, or Williams's Bonchretien	421
Bartlett	421
Beau Present	514
Beau Present d'Artois	563
Beauchamps	456
Beaute de Teroucren	537
Belle et Bonne	455
Belle Epine Dumas	453
Belle Fondante	454
Belle Julie	453
Belle de Bruxelles	564
Belle Lucrative	439
Belle Excellente	494
Belle de Noel	499
Belle Apres Noel	499
Belle Verge	514
Belle de Brissac	456
Belle Alliance	458
Belle Angevine	537
Belle de Jersey	537
Belle et Bonne d'Ezee	477
Belle d'Aout	564
Belle de Brussels	455
Belle de Flanders	438
Bellissime Supreme	514
Bellissime d'Ete	514
Bellissime Jargonelle	514
Belmont	564
Bein Armudi	475
Benoist?	455
Benoits	467
Bergamot, Easter	564
Bergamot, Autumn	565
Bergamot, Early	565
Bergamot, Summer	565
Bergamot, Hampden's	565
Bergamotte Suisse	564
Bergamotte d'Hollande	564
Bergamotte d'Esperen	455
Bergamotte Heimburg	455
Bergamotte Gaudry	455
Bergamotte Cadette	456
Bergamotte Leseble	456
Bergamotte, Gansel's	457
Bergamotte de Millepieds	457
Bergamotte Crassane	571
Bergamotte d'Angleterre	565
Bergamotte d'Ete	565
Bergamotte de Paques	564
Bergamotte d'Hiver	564
Bergamotte de Buji	564
Bergamotte de Toulouse	564
Bergamotte d'Alencon	564
Bergamotte de Fougere	564
Bergamotte Fievee	439
Bergamotte Sylvange	583
Bergamotte de la Pentecóte	428
Bergamotte Sieule	435
Bergamotte de Solers	488
Bergamotte Caprand	456
Bergamotte Bufo	456
Bergamotte Sanspareil	476
Bergamotte Louise	520
Bergen Pear	453
Bergoloo	436
Beurre d'Anjou	423
Beurre Bosc	426
Beurre Diel	424
Beurre Gris d'Hiver Nouveau	423
Beurre, Easter	427
Beurre Langelier	457
Beurre Bachelier	458
Beurre Sterkmans	458
Beurre Moire	459
Beurre Kennes	460
Beurre Richelieu	460
Beurre Navez	460
Beurre Giffard	461
Beurre, Golden of Bilboa	461
Beurre Clairgean	463
Beurre Kossuth	464
Beurre Berckmans	465
Beurre Superfin	465
Beurre Hardy	466
Beurre Fougiere	466
Beurre Beaulieu	467
Beurre Winter	467

	Page
Beurre Spence	466
Beurre Amande	466
Beurre Bennert	467
Beurre Six	467
Beurre Benoist	467
Beurre Oudinot	467
Beurre Goubault	468
Beurre Drapiez	468
Beurre Soulange	468
Beurre de Montgeron	468
Beurre Bretonneau	468
Beurre de Quenast	468
Beurre Gens	469
Beurre Philippe Delfosse	469
Beurre Scheidweiller	469
Beurre Burnieq	469
Beurre Citron	469
Beurre d'Elberg	469
Beurre de Koning	470
Beurre Hamecher	470
Beurre Duhaume	470
Beurre Millet of Angers	470
Beurre de Brignais	470
Beurre Leon le Clerc	471
Beurre, Brown	471
Beurre d'Amanlis	471
Beurre Duval	472
Beurre de Nantes	457
Beurre le Fevre	566
Beurre Bollwiller	566
Beurre Romain	566
Beurre Seutin	566
Beurre Kenrick	566
Beurre Knox	566
Beurre Preble	472
Beurre Colmar	472
Beurre Van Marum	472
Beurre, Mollett's Guernsey	472
Beurre Rance	473
Beurre de Capiaumont	473
Beurre Nantais	457
Beurre Blanc de Nantes	457
Beurre Gris	471
Beurre Rouge	471
Beurre d'Or	471
Beurre Doree	471
Beurre d'Amboise	471
Beurre d'Ambleuse	471
Beurre du Roi	471
Beurre	471
Beurre d'Anjou	471
Beurre Vert	471
Beurre d'Amaulis	471
Beurre Blanc	436
Beurre de Fontenay	423
Beurre Gris d'Hiver	423
Beurre d'Angleterre	466
Beurre Judes	466

	Page
Beurre Auguste Benoit	467
Beurre, Sterkman's	466
Beurre Gris d'Luçon	423
Beurre Gris Supérieur	423
Beurre d'Hiver de Bruxelles	428
Beurre Incomparable	424
Beurre Magnifique	424
Beurre de Malines	447
Beurre de Mesode	433
Beurre de Pâques	428
Beurre de la Pentecôte	428
Beurre Picquery	445
Beurre Rouge	437
Beurre Roupé	428
Beurre Sieulle	435
Beurre Spence	438
Beurré Royale	424
Beurre d'Yelie	424
Beurre Robin	490
Beurre St. Nicholas	493
Beurre Charneuse	494
Beurre Sprin	498
Beurre Bronzee	498
Beurre d'Hardenpont	503
Beurre d'Aremberg	503
Beurre Ananas	503
Beurre d'Austrasie	517
Beurre Beauchamps	456
Beurre d'Cambron	503
Beurre de Semur	577
Beurre Boucquia	567
Beurre de Payence	568
Beurre d'Hiver	569
Beurre Platt	571
Beurre de Mortefontaine	566
Beurre Colmar d'Automne	472
Beurre Epine	473
Beurre de Flandre	473
Beurre de Ranz	473
Beurre d'Aleucon	564
Beurre Aurore	473
Beurre Bieumont	474
Beurre Romain ?	474
Beurre de Beaumont	475
Beurre Blanc de Jersey	475
Beurre Curte	483
Beurre Haggerston	520
Beurre, or Bonne Louise d'Araudore	520
Beurre Niell	526
Beurre Colmar Gris, dit Prucel	532
Beurre d'Argenson	532
Beurre Audusson	540
Beurre Knox ?	563
Beurre d'Angleterre	563
Beymont	474
Bezi de la Motte	475
Bezi des Veterans	566

	Page
Bergamotte Fortunee	573
Bezi de Montigny	474
Bezi Vaet	475
Bezi d'Heri	565
Bezi Royal	565
Bezi Chaumontelle tres Gros	428
Bezi de Chaumontelle	569
Bezi d Echassey	572
Bezi l'Echasserie	572
Bezy Garnier	476
Bezy Sanspareil	476
Bezy Quessoy d'Ete	476
Bezy d'Esperen	476
Bezy de Louvain	486
Bezy d'Esperen	455
Bishop's Thumb	566
Black Worcester	567
Black Pear of Worcester	567
Blanc-per-ne	576
Bleecker's Meadow	567
Bloodgood	428
Bon Chretien Fondante	477
Bon Gustave	477
Bon Chretien, Flemish	567
Bon Chretien, Spanish	567
Bon Chretien d'Espagne	567
Bon Parent	518
Bon Chretien d'Ete	583
Bon Chretien Turc	567
Bonne d'Ezee	477
Bonne Charlotte	477
Bonne de Keinzheim	584
Bonne des Haies	477
Bonne de Zees	477
Bonne de Longueval	477
Bonne Rouge	457
Bonne de Longueval	520
Bonne-ente	436
Bonne de Malines	447
Bonvier	489
Bouvier	518
Bosch	438
Bosch Nouvelle	438
Boschpeer	438
Bosc's Flaschenbirne	426
Bosc Sire	438
Boston	477
Boston Eparne	506
Boucquia	567
Bouteille	472
Bouvier	474
Bourgemester	567
Braddick's Field Standard	522
Brandywine	478
Bretagne le Cour	537
Brocas Bergamot	457
Brougham	568
Brown St. Germain	548
Buffam	429
Bujaleuf	584
Burnett	568
Burlingame	568
Butter Pear	508
Butter Pear	436
Cabot	478
Cadillac	568
Caen de France	478
Catillac	568
Calebasse Tongard	568
Calebasse	568
Calebasse Double Extra	568
Calebasse d'Hollande	568
Cartofel	570
Capucin	568
Capuchin	568
Calebasse Delvigne	478
Calhoun	478
Calebasse d'Ete	479
Camerlyn	479
Canandaigua	479
Catherine	479
Cassante de Mars	479
Catharine Gardette	479
Catinka	480
Capsheaf	480
Capiumont	473
Cambridge Sugar Pear	506
Canning	428
Caillot Rosat d'Ete	583
Calebasse Bosc	531
Cellite	532
Chaumontelle d'Ete	514
Charles d'Autriche	526
Chaumontel	569
Charles Van Hooghten	480
Charles Smet	480
Charles Frederick	480
Charlotte de Brower	481
Chancellor	481
Charles d'Autriche	569
Chelmsford	569
Charles of Austria	569
Chaumontel tres Gros	428
Church	430
Chambrette	584
Citron	481
Citronenbirne Bomische grosse, punctirte	574
Citron de Septembre	436
Citron des Carmes	441
Clara	569
Claire	569
Clement Doyenné	421
Clion	557
Clinton	569
Clay	481

	Page
Coffin's Vergelieu	491
Coits Beurre	481
Colmar	570
Colmar Epine	570
Colmar d'Aremberg	570
Colmar Neill	569
Colmar d'Ete	570
Colmar d'Alost	482
Colmar Jaminctte	513
Colmar Precoce	570
Colmar Navez	460
Colmar Van Mons ?	550
Colmar Bosc	526
Colmar Gris	532
Colmar Hardenpont	532
Colmar Souveraine	532
Colmar Preule	532
Colmar Doree	532
Colmar d'Hiver	503
Colmar Charnay	452
Columbian Virgalieu	482
Columbia Virgalouse	482
Collins	482
Comprette	570
Comstock Wilding	570
Commodore	570
Columbia	482
Comstock	570
Common Bergamot	565
Comtesse de Frenol	498
Compte de Michaux	578
Comtesse d'Alost	482
Comte Lelieur	483
Comte de Paris	483
Compte de Lamy	483
Comte de Flandre	483
Consellier de la Cour	483
Consieller Rauwez	484
Cooke	484
Coter	484
Copia	571
Count Coloma	445
Cornelis	488
Corail	500
Cornice de Toulon	537
Crawford	571
Cresane	571
Crassane	571
Crassane d'Hiver	484
Croft Castle	571
Cumberland	571
Cushing	485
Cuisse Madame	585
Cyprus Pear	581
D'Ambre	578
D'Amour	571
D'Austrasie	513
D'Ananas	532

	Page
Dana's No. 19	486
Dana's No. 16	486
Dana's No. 1	522
Dallas	486
Dean's	436
Deacon Dillen	490
Dearborn's Seedling	431
Dechantsbirne	436
De Louvain	486
De Sorlus	488
De Tongres	488
De Mott	545
De Vallee	584
De Keinzheim	584
De Bavay	486
De la Vault	421
De Melon	424
De Vigne Pelone	498
De Spoelberg	558
De Maune	570
De Lepine	536
Des Trois Tours	424
Des Nonnes	470
Delies d'Alost	482
Delices de Charles	487
Delices, Van Mons	558
Delices d'Hardenpont of Belgium	487
Delices d'Hardenpont of Angers	488
Delepine	536
Desiree Cornelis	488
Deux Sœurs	489
Desiree Van Mons	494
Die Sommer Christebirne	583
Diel's Burterbirne	424
Diel	424
Dillen	424
Dix	431
Dingler	483
Diamant	457
Dikeman	489
Diller	490
Docteur Lentier	493
Docteur Bouvier	493
Docteur Capron	493
Dr. Trousseau	493
Dorothée Royale	424
Dowlin	554
Double Philippe	433
Dow	490
Doyenne d'Ete	434
Doyenne Sieulle	435
Doyenne, White	436
Doyenne Boussack	433
Doyenne d'Hiver Nouveau	434
Doyenne, Gray	437
Doyenne Goubault	491

	Page
Doyenne Musque	474
Doyenne de Juillet	434
Doyenne d'Hiver d'Alencon	434
Doyenne Defais	492
Doyenne Downing	492
Doyenne Rose	571
Doyenne Robin	490
Doyen Dillen	490
Doyenne Gris d'Hiver Nouveau	434
Doyenne Marbre	434
Doyenne d'Alencon	434
Doyenne d'Hiver	428
Doyenne du Printemps	428
Doyenne Boussouck Nouvelle	433
Doyenne	436
Doyenne Blanc	436
Doyenne Galeux	437
Doyenne Boussouck	437
Doyenne Gris	437
Doyenne Rouge	437
Doyenne Roux	437
Doyenne d'Automne	437
Doyenne Sterkmans	458
Dobbel Amandel	466
Downham Seedling	505
Duchess de Berry d'Ete of Bivort	434
Duchesse d'Orleans	493
Duchesse de Berry d'Ete	493
Duchesse de Brabant	494
Duchesse d'Angouleme	494
Duchesse d'Alost	482
Duc de Bourdeaux	453
Du Pâtre	428
Dundas	489
Du Tonneau	537
Duchesse de Mars	572
Dunmore	572
Duc de Brabant	494
Dumortier	495
Dupuy Charles	495
Early Denzalonia	572
Early Beurre	563
Early Chaumontelle	441
Early Sugar	450
Early Queen	578
Early Catharine	581
Early Rousselet	581
Eastnor Castle	572
Echassery	572
Echasserie	572
Edwards	572
Ellanrioch	565
Elizabeth, Manning's	496
Elizabeth Edward's	496
Elliott Dundas	489
Emile d'Heyst	496
Emilie Bivort	497
Emerald	572
English Beurre	563
English Bergamot	565
English Autumn Bergamot	565
Enfant Prodigue	540
English Red Cheek	514
Epine du Rochoir	453
Epine de Limoges	453
Epine d'Ete	573
Episcopal	573
Epine Rose	583
Epine d'Ete	583
Epine d'Ete Couleur Rose	583
Epargne	514
Esperine	498
Etourneau	447
Eyewood	573
Favori Musque de Conseiller	507
Feaster	567
Ferdinand de Meester?	581
Figue de Naples	498
Fingal's	565
Fin Or d'Hiver	574
Fig Pear of Naples	498
Figue d'Alencon	498
Figue d'Hiver	498
Fine Gold of Summer	573
Fin Or d'Ete	573
Fleur de Guignes	542
Fleur de Neige	500
Flemish Beauty	438
Florimont Parent	500
Fondante Musquee	573
Forme de Delices	573
Fondante	582
Fondante Pariselle	487
Fondant du Bois	438
Fondante d'Automne	439
Forme de Marie Louise	522
Fondante du Bois	526
Fondante de Panisel	532
Fondante de Mons	532
Fondante de Millot	543
Fondante des Charneuse	494
Fondante de Malines	499
Fondante de Noel	499
Fondante Van Mons	499
Fondante Agreeable	499
Fondante du Comice	499
Fondante des Pres	500
Forelle	500
Forellen-birne	500
Forty Ounce	568
Fortunee	573
Foster's St. Michael	573
Franc Real d'Hiver	574
Franc Real	574
Frederic de Wurtemburg	574

	Page
Frederick of Wurtemburg	574
Franc Real d'Etc	582
Franzosische Rumelbirne	565
Frankford	501
Frederika Bremer	501
Frauenschenkel	514
Fulton	501
Gambier	532
Gansel's Seckle	502
Gansel's Late Bergamotte	502
Garde d'Ecosse	574
General Bosquet	502
General Canrobert	502
General Lamoriciere	502
General Taylor	503
General de Lourmel	503
Gerardin	503
Gedeon Paridant	503
Gendesheim	574
Gilogil	574
Gile-o-gile	574
Gibson	451
Glou-morceau	503
Gloux Morceaux	503
Goulu Morceau	503
Got Luc de Cambron	503
Golden Beurre	471
Gore's Heathcot	507
Gracioli of Jersey	515
Great Citron of Bohemia	574
Green Pear of Yair	574
Green Sylvange	583
Green Yair	574
Green Sugar	582
Green Chisel	441
Green Chisel ?	582
Gross	484
Gros Rousselet d'Aout	505
Gros Micet d'Ete	582
Grosse Calebasse of Langelier	554
Grosse Calebasse Noisette ?	554
Grosse Dorothée	424
Grosse Marie	505
Grosse Cuisse Madame	514
Grosse Calebasse	472
Grande Monarque	568
Groote Mogul	568
Grand Soleil	505
Graslin	505
Groom's Princess Royal	505
Gratioli	583
Gratioli d'Ete	583
Gratioli di Roma	583
Gros Dillen	424
Gray Butter Pear	437
Gray Deans	437
Gray Doyenne	437
Gracicuse	455
Grey Beurre	471
Gustin's Summer	575
Guernsey	545
Gurle's Beurre	457
Harrison's Large Fall	575
Hazel	575
Hardinpont du Printemps	473
Hardenpont d'Hiver	503
Hacon's Incomparable	505
Haddington	506
Hanover	506
Harvard	506
Harvest Pear	450
Hawe's Winter	506
Heathcot	507
Heggerman	506
Hessel	575
Heidelberg	567
Hénrietta	509
Hericart	509
Hericart de Thirery	509
Henkel	507
Henry the Fourth	507
Henri Quatre	507
Henrietta	508
Henri Bivort	508
Holland Bergamot	564
Hooper's Bilboa	461
Hosenshenck	508
Hovey	509
Howell	510
Hull	510
Huntington	511
Huguenot	575
Hunt's Connecticut	575
Imperatrice de France	438
Incomparable	570
Inconnue la Fare	548
Inconnue Van Mons	511
Isambert	471
Isambert le Bon	471
Ives' Winter	575
Ives' Seedling	512
Ives' Pear	512
Ives' Bergamot	512
Ives' Vergelieu	512
Jackman's Melting	576
Jackson	512
Jagdbirne	572
Jalousie	576
Jalousie de Fontenay Vendee	512
Jaminette	513
Jaquin	507
Jamin	494
Jardin de Jougers	564
Jargonelle	514
Jean de Witte	515
Jersey Gracioli	515

	Page
Jilogil	574
John	578
Johonnot	515
Jone's Seedling	515
Josephine de Malines	516
Josephine	513
Josephine	473
Joannette	450
Julienne	516
Jules Bivort	517
July Pear	582
Kartofel	570
Katzenkop	568
Kattern	581
Kaiserbirne	436
Kaiser d'Automne	436
King Edward's	576
King's Seedling	576
Kirtland	440
Kirtland's Seedling	440
Kirtland's Seckel	440
Kirtland's Beurre	440
Kingsessing	517
Knight's Monarch	576
Knight's Seedling	576
Konge	585
Kronprinz Ferdinand	503
Kronprinz von Oestreich	503
La Bonne Malinoise	447
La Herard	518
Las Canas	518
La Fortunee de Paris	573
La Fortunee de Parmentier	573
La Juive	518
Large Sugar	583
Laure de Glymes	518
Lawrence	440
Large Seckel	567
Le Cure	557
Leatch	534
Leopold I.	518
Leon le Clerc	518
Lenawee	519
Lewis	519
Lent St. Germain	537
Leon le Clerc de Laval	576
Leech's Kingsessing	517
Leon le Clerc	576
Liberale	519
Lieutenant Poitevin	519
Limon	520
Little Muscat	577
Little Musk	577
Linden d'Automne	503
Locke	577
Locke's New Beurre	577
Louise Bonne	577
Louise Bonne Real	577
Long Green	556
Lord Cheeney's	564
Longue de Narkouts	466
Louis Bosc	474
Lodge	520
Louis Dupont	520
Louise Bonne of Jersey	520
Louise Bonne d'Avranches	520
Louise Bonne de Jersey	520
Louis de Busse ?	545
Mansuette	577
Marie Louise Nova	577
Martin Sec	577
March Bergamotte	578
Mabille	424
Madeleine, or Citron des Carmes	441
Madeleine	441
Magdelen	441
Marechal de la Cour	483
Marie Louise Nova	483
Madame Millet	521
Madame Ducar	522
Madame Eliza	522
Malconaitre d'Haspin	522
Martha Ann	522
Marie Parent	522
Marie Louise	522
Marie Chretienne	522
Marechal Pelissier	523
Marianne de Nancy	524
Marechal Dillen	524
Mather	524
Maynard	524
Madotte	563
Marie Louise the Second	483
Maria Nouvelle	531
Meadow Feaster	567
Marotte Sucree Jaune	532
Mr. John	578
McLaughlin	524
McVean	578
Messire Jean	578
Messire Jean Gris	578
Messire Jean Blanc	578
Messire Jean Dore	578
Merriweather	550
Meriam	524
Medaille	526
Melin de Kops	424
Miel d' Waterloo	494
M chaux	578
Milanaise Cuvelier	447
Mignonne d'Hiver	525
Millot de Nancy	525
Mitchell's Russet	525
Miller's Early	532
Moccas	578
Monsieur Jean	578

	Page
Moor-fowl Egg	583
Monille Bouche, L. H. S.	556
Monsieur le Cure	557
Mon Dieu	571
Monkowthy	466
Mollett's Guernsey Chaumontelle	472
Monseigneur Affre	525
Moyamensing	525
Muscadine	526
Muskingum	526
Muscat Petit	577
Muscat Robert	578
Musk Summer Bon Chretien	583
Musk Robine	578
Naumkeag	579
Napoleon	526
Ne Plus Meuris	527
New St. Germain	548
Ne Plus Meuris	324
Nelis d'Hiver	447
New York Red Cheek	443
New Frederick of Wurtemburg	468
Newtown Vergelieu	575
Niles?	527
Niell	526
No. 135 *of Van Mons*	558
No. 1599 *of Van Mons*	566
No. 10	520
Nouveau Poiteau	527
Nouvelle	547
Nouvelle d'Ouef	436
Noisette	466
Noirchain	473
Ognon	583
Ognonet	456
Oliver's Russet	579
Omer Pacha	528
Onondaga	528
Ontario	529
Orpheline Colmar	529
Orange Bergamot	534
Orange Bergamotte	579
Orange d'Hiver	579
Osborne	529
Osband's Summer	529
Oswego Beurre	530
Ott	441
Oxford Chaumontel	569
Pailleau	579
Parkinson's Warden	567
Paddrington	564
Paddock	530
Pardee's Seedling	530
Pardee's No. 2	439
Parsonage	540
Paradise d'Automne	531
Passe Colmar	532
Passe Colmar Epineaux	532
Passe Colmar Gris	532
Passan's du Portugal	532
Pater Noster	532
Paquency	533
Paul Ambre	536
Petit Corail	500
Pennsylvania	579
Perdreau	581
Petit Rousselet	581
Petit Muscat	577
Peach Pear	533
Pendleton's Early York	533
Pengethly	533
Petre	533
Philadelphia	534
Philippe Goes	535
Philippe de Páques	428
Pie IX	535
Pickering Pear	537
Pine Pear	436
Pitt's Prolific	579
Pitt's Surpasse Marie	579
Platt's Seedling	535
Plombgastel	546
Pocahontas	535
Poire de Rose	583
Poire-glace	584
Poire Seutin?	554
Poire Rameau?	566
Poire Guillaume	421
Poire de Simon	436
Poire Neige	436
Poire de Seigneur	436
Poire Monsieur	436
Poire Davy	438
Poire d'Amour	571
Poir des Nonnes	470
Poire d'Amboise	471
Poir de Cadet	456
Poire Carafour	472
Poire de Bavay	486
Poire de Louvain	486
Poire Truite	500
Poire Ananas	507
Poire de Tables des Princes	514
Poire a Gobert	574
Poire Peche	533
Poire d'Albret	535
Poire d'Abondance	536
Poire de Chasseurs	536
Poire d'Avril	536
Poire de Lepine	536
Poire Ritelle	540
Poire Sans Peau	542
Poire de Printemps	544
Pope's Scarlet Major	580
Pope's Quaker	580

	Page
Pound	537
Poire Prevost	537
Poire de Chypre	581
Poire a la Reine	578
Poire Liard	526
Poire Niell	526
Princesse Marianne	531
Precel	532
Present de Malines	532
Pucelle Condesienne	532
Pratt	537
Prevost	537
Princess Maria	580
Princess of Orange	580
Princesse d'Orange	580
Princesse Conquete	580
Princess Charlotte	580
Primitive	577
Princesse de Parme	522
Prince's Sugar	582
Prince's Sugar Top	582
Prince Albert	537
Pulsifer	538
Royale	547
Queen's Pear	578
Queen of the Low Countries	580
Quilletette	538
Quinnipiac	547
Raymond	538
Rapelje	538
Read's Seedling	530
Reading	538
Regintin	532
Real Jargonelle	514
Retour de Rome	539
Reigner	436
Red Doyenne	437
Red Beurre	437
Red Checked Seckel	443
Red Beurre	471
Red Muscadel	514
Red Cheek	514
Reine des Pays Bas	580
Reine Caroline	580
Richards	540
Ridelle's	540
Rousselette d'Hiver	577
Roi de Rome	526
Royal d'Angleterre	537
Roe's Bergamotte	540
Rousselet Esperen	540
Rousselet Double	540
Rousselet Enfant Predigue	540
Ropes	541
Rosabirne	541
Rousselet Vanderwecken	541
Rousselet Stuttgart	541
Rostizer	442
Rousselet Jamin	489
Rol de Wurtembery	503
Round Top	554
Rousselet de Meester	581
Rousselet Hatif	581
Rousselet de Rheims	581
Rousselet	581
Rosenbirne	583
Robinson	559
Robert's Keeping	564
Royal Tairling	564
Rushmore's Bon Chretien	575
Saint Germain, Brande's	541
Salisbury Seedling	541
Sanspeau, or Skinless	542
Saint Germain de Martin	582
Saint Sampson	514
Saint Lambert	514
Sabine d'Ete	514
Sarah	564
Satin Vert	573
St. Germain Blanc	577
St. Jean Musquee Gros	578
St. Jean Baptiste	546
St. Michael Archange	546
St. Vincent de Paul	547
St. Dorothee	547
St. Ghislain	547
St. Andre	548
St. Germain	548
St. Germain Gris	548
St. Germain Jaune	548
St. Germain, Prince's	548
St. Menin	549
St. Denis	581
St. Germain d'Ete	582
St. Michael d'Hiver	434
St. Michael	436
St. Michel	436
St. Michel Dore	437
St. Marc ?	445
St. Jean	450
St. John's Pear	450
St. Nicholas	498
St. Herplain d'Hiver	564
Sabine	513
Schone und Gute	455
Scotch Bergamot	565
Sept-en-gueule	577
Selleck	543
Serrurier	543
Seigneur d'Esperin	439
Seckel	443
Seckle	443
Seigneur d'Hiver	428
Shelden	444
Shenk's	508
Sheppard	543

	Page
Short's St. Germain	582
Simon Bouvier	543
Silliman's Russet?	572
Sieulle	435
Sickel	443
Smith's Bordenave	520
Smith's Pennsylvania	579
Smokehouse	508
Snow Flower	500
Snow Pear	436
Solitaire	577
Souvcraine d'Hiver	532
Soldat Laboureur	543
Souveraine de Printemps	544
Souveraine d'Ete	545
Sommer Apothekerbirne	583
Sommer Gute Christenbirne	583
Spice, or Musk Pear	581
Sponge	481
Spice Butter	567
Spina	567
Sterling	545
Stevens' Genesee	545
Styrian	546
Styer	546
Stone	581
Staunton	457
Sucre Vert	582
Sugar Top	582
Sucree de Hoyerswerda	582
Sugar of Hoyersworda	582
Sullivan	549
Supreme de Quineper	549
Surpasse Meuris	549
Surpasse Crassane	549
Summer Thorn	573
Surpass Maria Louise	579
Surpasse Meurice	581
Summer St. Germain	582
Summer Franc Real	582
Summer Rose	583
Summer Bon Chretien	583
Summer Good Christian	583
Superfoudante	583
Sumner Bell	585
Summer Portugal	532
Suerrier d'Automne	543
Sumner Doyenne	434
Sucree Doree	526
Sugar Pear	450
Supreme	514
Summer Beauty	514
Summer Bergamot	565
Surpasse Virgalieu	550
Surpasse Virgoulense	550
Suzette de Bevay	550
Swiss Bergamot	564
Sweet Summer	514
Swan's Egg	583
Syckle	443
Sylvanche vert d'Hiver	424
Sylvange	583
Tarquin de Pyrennees	550
Taylor Pear	550
Tea	551
Terling	564
Theodore Van Mons	551
Thompson's	552
Thorp	553
Thuerlinck	553
Thorny Rose	583
Tillington	584
Totten's Seedling	553
Triomphe de Jodoigne	553
Triomphe d'Hasselt	554
Trouve de Montigny	474
Triomphe de Nord	472
Triomphe de Haslet	472
Trout Pear	500
Tyler	553
Tyson	445
Udal	514
Unedales St. Germain	537
Upper Crust	553
Urbaniste	445
Uwchlan	554
Van Buren	554
Van Marum	554
Vallee Franche	584
Van Mons Leon le Clerc	584
Virgouleuse	584
Vanquelin	554
Van Assche	554
Van Assene	554
Van Asshe	554
Valencia	436
Van Mons No. 154	496
Van Mons, No. 1238	569
Van Mons, No. 1218	570
Van Mons	520
Van Mons, No 889	549
Vermillion d'Ete	514
Vermilion d'Ete	574
Verte Longue de la Mayenne	498
Verte Longue of Angers	555
Verte Longue	556
Vezouziere	556
Vicar of Winkfield	557
Vicompte de Spoelberch	558
Virgalieu	436
Virgaloo	436
Warwick Bergamot	436
Wayne	444
Watertown	482
Waterloo	494
Watermelon	508

	Page
Wadleigh	558
Walker	558
Washington	559
Weisse Herbst Butterbirne	436
Wendell	559
Westcott	560
Wharton's Early	560
White Seedling	560
White Beurre	436
White Autumn Beurre	436
William Edwards'	584
Williams' Early	561
William the Fourth	520
Williams's Bonchretien	421
Williamson	560
Willermoz	561
Wilmington	561
Wilbur	561
Wilkinson	561
Winter Seckel	562
Winter Nelis	447
Winter Orange	579
Winter Bell	537
Winter Bergamot	564
Winter Beurre	569
Winter Virgalieu	570
Winter Vergelieu	491
Wilhelmine	513
Windsor	585
Wiest	560
Wredow	562
Wurtemberg	526
Yat	585
Yellow Butter	436
York Bergamot	565
Yutte	585
Zephirin Gregoire	562
Zephirin Louis Gregoire	562
Zoar Beauty	562
Zoar Seedling	562

PLUMS.

	Page
Abricotee Rouge	401
Abricot Vert	362
Abricotee de Tours	401
Abricotee	401
Agen Datte	368
American Wheat	401
American Yellow Gage	372
Amber Primordian	385
Angelina Burdett	373
Apple Plum	373
Apricot	401
Apricot Plum of Tours	401
Autumn Gage	373
Azure Hative	402
Belgian Purple	373
Belle de Septembre	373
Beckman's Scarlet	387
Bingham	358
Black Damask	374
Black Perdrigon	402
Black Morocco	389
Black Damson	377
Black Imperial	374
Bleecker's Gage	359
Bleecker's Scarlet	387
Blue Imperatrice	359
Blue Perdrigon	401
Blue Gage	402
Blue Perdrigon	391
Blue Imperatrice	397
Blue Holland	403
Bolmar	371
Bolmar's Washington	371
Bradshaw	374
Brevoort's Purple	402
Brevoort's Purple Bolmar	402
Brevoort's Purple Washington	402
Brignole?	405
Brignole Violette	401
Bricetta	374
Bruyn Gage	362
Bradford Gage	362
Buel's Favorite	374
Bury Seedling	360
Burgnon Gage	362
Burgundy Prune	374
Burrettes	374
Byfield	402
Caledonian	382
Catalonian	385
Chapin's Early	375
Cherry	375
Cheston	376
Cloth of Gold	380
Columbia	376
Columbian Gage	376
Coe's Golden Drop	360
Coe's Late Red	376
Coe's Imperial	360
Common English Sloe	406
Common Damson	377
Common Quetsche	393
Cooper's Large	377
Cooper's Large Red	377
Cooper's Large American	377
Corse's Admiral	402
Corse's Field Marshal	402
Corse's Nota Bene	377
Covetche	393
Cruger's Scarlet	375
Cruger's	375
Cruger's Seedling	375

	Page
Cruger's Scarlet Gage	375
D'Agen	368
D'Amerique Rouge	375
D'Avoine	385
Damson	377
Damask	393
Damas Gros	393
Damas Violet Gros	393
Damas Violet	394
Damas Vert	362
Dame Aubert Violette	394
Dame Ambert	399
Dame Ambert Blanche	399
Dame Ambert Jaune	399
Dana's Yellow Gage	378
Dauphine	362
De Montfort	378
De Delice	360
De Virginie	375
Denniston's Superb	361
Denniston's Albany Beauty	378
Denniston's Red	378
Denver's Victoria?	397
Diamond	402
Dictator	403
Diapree Rouge	361
Die Violette Koning Claudie	368
Diapree Violette	376
Domine Dull	379
Downton Imperatrice	379
Double Blossomed Plum	406
Drap d'Or	379
Drap d'Or of Esperin	380
Duane's Purple	380
Dunmore	380
Dutch Prune	379
Dutch Quetzen	379
Early Cross	380
Early Royal of Nikita	380
Early Yellow Prune	381
Early Scarlet	375
Early Damson	377
Early Yellow	385
Early Morocco	389
Early Black Morocco	389
Early Damask	389
Early Violet	391
Early Tours	391
Early Royal	396
Egg Plum	399
Elfrey	403
Elfry's Prune	403
Emerald Drop	381
English Wheat	381
Fair's Golden Drop	360
Fellenberg	381
Florence	394
Flushing Gage	364
Fotheringham	403
Franklin	371
Frost Gage	381
Frost Plum	381
Fulton	382
Galbraith	382
German Gage	359
German Prune	379
General Hand	382
Gifford's Lafayette	403
Golden Gage	360
Golden Cherry Plum	376
Goliath	382
Gonne's Green Gage	400
Green Gage	362
Grosse Reine Claude	362
Grosse Reine	362
Grosse Luisante	399
Grove House Purple	403
Groundacre	382
Grimwood's Early Orleans	391
Gundaker Prune	382
Gundaker Plum	383
Guthrie's Topaz	383
Guthrie's Apricot	383
Guthrie's Late Green	383
Gwalsh	403
Hartwiss' Yellow Prune	383
Hampton Court	391
Henry Clay	384
Highlander	384
Holland	403
Holland Prune	403
Howard's Favorite	362
Howell's Early	384
Howell's Large	390
How's Amber	384
Horse Plum	404
Hudson Gage	364
Hulings' Superb	384
Ickworth Imperatrice	385
Imperial Gage	364
Imperial Ottoman	365
Imperial	394
Imperial Violet	394
Imperiale	394
Imperial Diadem	361
Imperiale Violette	394
Imperiale Rouge	394
Imperiale Blanche	399
Imperatrice	359
Imperatrice Violette	393
Imperatrice Violette Grosse	393
Imperatrice Blanche	399
Isabella	385
Isleworth Green Gage	362

	Page
Italian Prune	381
Ives' Seedling	385
Jaune Hative	385
Jaune de Catalogne	385
Jefferson	365
Jenkin's Imperial	390
Judson	386
Keyser's Plum	384
Kirke's	386
Knight's No. 6	385
Knight's Large Drying	387
Lady Plum	386
La Royale	370
La Delicieuse ?	377
Large Green Drying	387
Large Early Damson	404
Large Long Blue	392
Late Bolmer	404
Late Yellow Damson	405
Lawrence's Favorite	365
Lawrence's Gage	365
Langdon's Seedling	386
Leipzic	393
Lewiston Egg	404
Little Queen Claude	400
Little Blue Gage	402
Lombard	387
Louis Philippe	390
Long Scarlet	404
Lucombe's Nonsuch	387
Madison	366
Mamelonnee	388
Marten's Seedling	388
Maitre Claude	405
Manning's Long Blue	392
Mamelon Sageret	388
Magnum Bonum	399
Matchless	376
McLaughlin	366
Meigs	388
Mirabelle Tardive	388
Mirabelle	388
Mirabelle Petite	388
Mirabelle Jaune	388
Mirabelle Double	379
Mirabelle Grosse	379
Miser Plum	375
Mimms	361
Monroe	389
Monroe Egg	389
Monsieur	390
Monsieur Ordinaire	390
Monsieur Hatif	391
Monsieur Hatif de Montmorency	391
Monsieur Tardif	398
Montgomery Prune ?	387
Morocco	389
Mulberry	389
Myrobolan	375
Nectarine	390
New Early Orleans	391
New Orleans	391
New York Purple	402
New Golden Drop	360
New Washington	371
Noire Hative	391
Old Orleans	390
Orange	390
Orange Gage	390
Orleans	390
Orleans Early	391
Orleans, Smith's	366
Parsonage	367
Peach Plum	367
Peach Plum	390
Penobscot	391
Peoly's Early Blue	404
Petite Reine Claude	400
Perdrigon Violette	401
Perdrigon Rouge	405
Perdrigon Violet	391
Perdrigon Blanc	405
Pigeon's Heart	394
Plum de l'Inde	391
Pond's Seedling	404
Pond's Seedling	391
Pond's Purple	404
Plum of Louvain	392
Precoce de Bergthold	391
Precoce de Tours	391
Prince's Orange Egg	392
Prince of Wales	392
Prince Engelbert	392
Prince's Orange Gage	408
Prince's Imperial Gage	364
Prune, Manning's Long Blue	392
Prune de Louvain	392
Prune d'Agen	368
Prune Peche	390
Prune d'Allemagne	393
Prune d'Œuf	394
Prune d'Altesse	398
Prune Suisse	395
Prune Peche	367
Prune d'Ast	368
Prune de St. Barnabe	385
Prune de Brignole	368
Prune de Bourgoyne	374
Prune de la St. Martin	376
Prune Suisse	381
Prunus Myrobolana	375
Prunus Cerasifera	375
Purple Gage	368

	Page
Purple Favorite	368
Purple Egg	394
Purple Magnum Bonum	394
Purple Damson	377
Purple Magnum Bonum	380
Quackenboss	393
Quetsche de Dorelle Nouvelle Grand	393
Quetsche, or German Prune	393
Quetsche Grosse	393
Quetsche d'Allemagne Grosse	393
Queen Mother	394
Queen Victoria?	397
Red Magnum Bonum	394
Red Gage	369
Red Perdrigon	405
Red Damask	390
Red Queen Mother	394
Red Imperial	394
Red Magnum Bonum	366
Red Gage	404
Reine Claude Rouge	394
Reine Claude Diaphane	395
Reine Claude d'October	395
Reine Claude de Bevay	370
Reine Claude	362
Reine Claude Blanche	400
Reine Petite Espece	400
Reine Nova	394
Reizenstein's Yellow Prune	395
Rhinebeck Yellow Gage	405
Rhine Claude Violette	368
Rivers's Early Prolific	395
River's Early Favorite	395
River's No. 1	395
River's Early, No. 2	395
Robe de Sergent	368
Roche Carbon	361
Roe's Autumn Gage	373
Royale	370
Royale de Tours	395
Royale Hative	396
Royal Tours	395
Saint Catherine	396
Saint Martin's Quetsche	397
Saint Martin	376
Saint Martin Rouge	376
Saint Cloud	382
Schuyler Gage	371
Schenectady Catherine	397
Scarlet Gage	404
Sea or Early Purple	397
Semiana	397
Sharp's Emperor	397
Shiston's Early	403
Shailer's White Damson	405
Sheen	403
Siamese	405
Simiana	398
Small Green Gage	400
St. Maurin	368
Steer's Emperor	382
Suisse	398
Sucrin Vert	362
Superiour Green Gage	364
Sweet Damson	404
Sweet Prune	393
Swiss Plum	398
Thomas	398
Trouvee de Voueche	398
True Large German Prune	393
Turkish Quetsche	393
Vert Bonne	362
Veritable Imperatrice	359
Virgin	398
Violet Perdrigon	401
Violet de Tours	391
Violet Perdrigon	366
Violet Queen Claude	368
Violet Diaper	376
Violette Hative	391
Violette	359
Virginian Cherry	375
Washington	371
Wax	398
Waterloo	360
Wentworth	399
White Imperatrice	399
White Magnum Bonum	399
White Apricot	405
White Perdrigon	405
White Damson	405
White Empress	399
White Egg	399
White Primordian	385
White Mogul	399
White Imperial	399
White Holland	399
White Gage	400
White Prune Damson	405
White Damascene	405
White Gage	364
White Gage	372
Wilkinson	400
Wilmot's Green Gage	362
Wilmot's New Green Gage	362
Wilmot's Late Green Gage	362
Wilmot's late Orleans	382
Woolston's Black Gage	400
Yellow Gage, Prince's	372
Yellow Gage	400
Yellow Egg	399
Yellow Magnum Bonum	399
Yellow Apricot	401
Yellow Perdrigon	379
Zwetsche	393

STRAWBERRIES.

	Page
Aberdeen Beehive	681
Aberdeen	682
Admiral Dundas	672
Ajax	672
Alice Maude	672
American Scarlet	675
Atkinson's Scarlet	681
Austrian Scarlet	680
Bishop's Orange	673
Bishop's New	673
Black Roseberry	679
Black Prince	672
Black Imperial	672
Blood Pine	682
Boston Pine	669
British Queen	673
Brighton Pine	673
Brewer's Emperor	679
Buisson des Alps Blanc, &c	684
Burr's New Pine	670
Burr's Seedling	673
Burr's Old Seedling	673
Burr's Staminate	673
Capt. Cook	673
Carolina	682
Caperon Royal	684
Caperon Hermaphrodite	684
Columbus	679
Common Rouge	683
Commun sans Filets	684
Cox's Seedling	679
Crescent Seedling	680
Crimson Cone	670
Crystal Palace	673
Cushing	674
Des Alpes à Fruit Rouge	683
Des Alpes de Tous les Mois à Fruit Rouge, &c	683
Des Alpes de Tous les Mois à Fruit Blanc, &c	683
Des Alpes sans Filets	684
Des Bois à Fruit Rouge	683
Des Alpes à Fruit Blanc	683
Deptford Pine	680
Diadem	674
Double Bearing	684
Downton	680
Duc de Brabant	674
Dundee	680
Duke of Kent	680
Dutchberry	670
Early Virginia	671
Early Prolific Scarlet	680
Eberlein's Seedling	680
Elenora	680
Eliza	680
English Red Wood	683
Fill-Basket	674
Fraisier Vert	685
French Musk Hautbois	684
Germantown	674
Genesee	674
Globe	681
Globe Scarlet	680
Goliath	674
Grandiflora	682
Green Strawberry	685
Green Alpine	685
Green Pine	685
Green Wood	685
Greenwell's New Giant	685
Greenwell's French	685
Grove End Scarlet	681
Hovey's Seedling	671
Hooker	675
Hooper's Seedling	681
Hudson	675
Hudson Bay	675
Huntsman	681
Imperial Crimson	675
Imperial Scarlet	675
Iowa	675
Jenny's Seedling	671
Jenny Lind	675
Keen's Pistillate	681
Keen's Seedling	676
Keen's Black Pine	676
Knight's Seedling	680
La Liegoise	681
Large Early Scarlet	671
Late Prolific	681
Late Scarlet	675
Le Baron	676
Lizzie Randolph	681
Longworth's Prolific	671
McAvoy's Extra Red	676
McAvoy's No. 1	676
M'Avoy's Superior	671
M'Avoy's No. 12	671
Mayomensing	676
Mammouth	681
Melon	681
Methren Scarlet	676
Methren Castle	676
Monroe Scarlet	676
Mottier's Seedling	681
Monthly, without Runners	684
Myatt's Deptford Pine	680
Myatt's British Queen	673
Murphy's Child	676
Musk Hautbois	684
Necked Pine	676
Newland's Mammouth	683
Nova Scotia Scarlet	680

	Page
Old Pine, or Carolina	682
Old Scarlet Pine	682
Old Scarlet	682
Omer Pacha	677
Orange Prolific	677
Orange Hudson Bay	673
Patagonian	685
Peabody's New Hautbois	684
Pennsylvania	677
Pine Apple	676
Picton Pine	672
Powdered Pine	685
Prince Albert	682
Prince of Orleans	682
Prince's Climax	677
Prince of Wales	677
Prince's Magnate	677
Prolific, or Conical	684
Prolific	682
Profuse Scarlet	682
Red Wood	683
Red Alpine	683
Red-Bush Alpine	684
Red Monthly Strawberry	683
Richardson's Early	682
Richardson's Late	682
Rival Hudson	677
Ross's Phœnix	677
Roseberry	682
Rouisson	684
Ruby	678
Scarlet Nonpareil	678
Scarlet Melting	682
Scarlet Cone	678
Scott's Seedling	678
Scotch Pine Apple	670
Scotch Scarlet	682
Schneicke's Seedling	671
Schiller	682
Sir Harry	678
Southampton Scarlet	676
Stoddard's Alpine	683
Swainstone's Seedling	683
Triumph de Grand	678
Trollope's Victoria	678
True Chili	685
Unique Prairie	676
Victoria	678
Vicomtesse Henricart de Thury	679
Walker's Seedling	672
Washington	675
Warren's Seedling	676
White Wood	683
White Alpine	683
White-Bush Alpine	684
White Monthly	683
White Monthly, without Runners	684
Western Queen	679
Wilson's Albany	679
Willey	679
Wilmot's Superb	683
Wilmot's Superb	685
Yellow Chili	685
Young's Seedling	674
York River Scarlet	675

POMEGRANATES.

	Page
Double Red	699
Double White	699
Grenadier à Fruit Doux	699
Sub-acid fruited	699
Sweet-fruited	699
Variegated Flowered	699
Wild, or Acid-fruited	699
Yellow-flowered	699

QUINCES.

	Page
Apple-shaped Quince	653
Chinese Quince	654
Coignassier Maliforme	653
Coignassier de Portugal	653
Coignassier Pyriforme	653
Cydonia Japonica	654
Cydonia Lusitanica	653
Cydonier sub v. Pyriform	653
Cydonia Sinensis	654
Cydonia v. Maliformis	653
Japan Quince	654
Oblong Quince	653
Orange Quince	653
Pear-shaped Quince	653
Portugal Quince	653
Pyrus Japonica	654
Rea's Seedling	653
Van Slyke	653

RASPBERRIES AND BLACKBERRIES.

1. *Raspberries.*

	Page
American Red	657
American Black	658
Antwerp	657
Antwerp Red	657
Antwerp Yellow	657
Autumnal Raspberries	661
Barnet	658
Belle de Fontenay	661
Black Raspberry	658
Brinckle's Orange	660

	Page
Brentford Cane	658
Rubus Occidentalis	658
Burley	657
Catawissa	661
Col. Wilder	658
Common Black-Cap	658
Common Red	657
Cope	658
Cornwall's Prolific	658
Cornwall's Seedling	658
Cretan Red	658
Cushing	659
Double Bearing	661
Double-Bearing Yellow	657
Emily	659
English Red	657
Fastolff	659
Franconia	659
French	659
Framboisier à Gros Fruit	657
Fulton	659
General Patterson	660
Howland's Red Antwerp	657
Knevett's Giant	660
Knevett's Antwerp	657
Late Liberian	661
Large Fruited Monthly	661
Large Red	658
Lord Exmouth's	658
Magnum Bonum	660
Merveille de Quatre Saisons	661
New Red Antwerp	657
Nottingham Scarlet	660
Northumberland Fillbasket	660
Ohio Everbearing	662
Ohio Raspberry	662
Old Red Antwerp	657
Orange	660
Perpetual Bearing	661
Red Prolific	657
River's New Large Monthly	661
Thimble-Berry	658
Thunderer	660
True Red Antwerp	657
Victoria	662
Vice-President French	659
Walker	660
White Antwerp	657
Woodward	661

2. *Blackberries.*

	Page
Bush Blackberry	663
Dewberry	662
Dorchester	663
High Blackberry	663
Lawton	663
Low Blackberry	662
New Rochelle	663
Newman's Thornless	663
Rubus Canadensis	662
Rubus Villosus	663
Seacor's Mammoth	662
Trailing Blackberry	663

GENERAL INDEX.

Almond, its nativity, 231; uses of, 232; its cultivation, 232; varieties, 233; ornamental, 235.
American Blight, 66.
Annual pruning of peach trees, 595 (note).
Aphis, the Woolly, 66.
Apple, its history, 56; where best naturalized, 57; its uses, 57; its quality, 58; propagation, 59; grafting, 17; soil and situation for, 59; planting and cultivation of apple orchards, 60; the bearing year, 61; pruning, 61; insects destructive to, 62; how to destroy, 63; gathering and keeping, 67; varieties of, 69; for ornament or preserving, 228; selections for different latitudes, 230.
Apple Borer, 63.
Apple Worm, 66.
Apricot, uses and cultivation of, 235; liable to disease, 236; curculio fatal to fruit, 236; varieties of tree, 236; ornamental varieties, 242; varieties adapted for cold climates, 242.
Ashes, a cure for peach borer, 597.
Aspect of fruit trees, 50.
Bark Louse, the, 66.
Bats, useful as destroyers of insects, 56.
Bending down limbs, to produce fruitfulness, 34.
Berberry, description of, 243; its use and culture, 243; varieties of, 243.
Birds, as destroyers of insects, 55.
Black Gum, fatal to plum trees, 357.
Black Walnut, 348.
Blackberry, culture and varieties of, 662.
Blight on Apple Trees, 67.
Budding, 19; proper season for, 20; shield and American shield budding, 21; reversed shield budding, 23; annular budding, 23.
Butternut, 348.
Canker Worm, the, 64.
Caterpillar, 63; to destroy, 64.
Cherry, its history, 244; uses of, 245; gum of the, 245; as shade trees, 246; soil and situation for, 246; propagation and cultivation, 247; classes of, 248; ornamental varieties, 279; selection of as to ripening, 281; hardy kinds, 281.
Chestnut, 349.
Chamomile to destroy insects, 54.
Cider, how to make, 68.
Citron, the, 695.
Coal Tar, a remedy for grubs, 54.
Composition for wounds in pruning, 32.

Codling Moth, 66.
Crab, wild species of, 57.
Cranberry, description of and value, 287; its culture profitable, 288.
Cross-breeding, 9.
Curculio, 353; habits of, 354; how to destroy, 355.
Currant, its history and use, 282; propagation and culture, 282; varieties of, 288 ornamental, 286.
Curl, the, in peach trees, 604.
Cuttings, to propagate by, 26.
Cucumber Bug, the, 686.
Duration of varieties, 701.
De Candolle, remarks on decay of varieties, 702.
Deep planting to be avoided, 45.
Disbarking and ringing, 84.
Eyes, or Buds, to propagate by, 27.
Fig, its history, 288; its secret blossom, 289; propagation, 289; soil and culture, 289; oiling the fruit, 290; varieties, 291.
Filbert, varieties of, 349.
Fire Blight, 412.
Frozen-Sap Blight, 414.
French Standard Names, key to, 711.
Fruit, production of new varieties, 1.
Fruitfulness increased by root-pruning, 32; by bending the limbs, 34.
Glands of the Peach, 606.
Gooseberry, description and uses of, 294; propagation and culture, 295; varieties, 296; list of new English, 298; selection of, for garden, 299.
Grafting, uses of, 12; proper time for, 13; scions selected, 13; stock for, 13; theory of, 14; confined to certain limits, 14; its manual operation, 15; splice and tongue grafting, 15; cleft grafting, 17; grafting the vine, 18; saddle grafting, 18.
Grafting Clay, 19.
Grafting-Wax, 19.
Graft, its influence on the stock, 26.
Grape, history of, 299; uses and soil, 300; propagation, 301; culture of foreign, 302; renewal system, 303; culture under glass, without heat, 304; soil for vinery, 304; pruning, 305; routine of culture, 306; thinning the fruit, 306; culture under glass, with fire-heat, 307; construction of vinery, 307; the border, 308; the spur system of pruning, 309; diary of Mr. O Johnson, 310; insects and diseases peculiar to, 317: varieties, 318; selection of foreign for cold vinery, 346.
Grape Beetle, 332.
Hickory Nut, 348.
Hybridising, 9; limits of, 10.
Inoculating Fruit Trees, 19.
Insects, remarks on, 51; to destroy by hand-picking, 52; larvæ, or grubs, 53; salt, a remedy for, 53; to destroy in the winged state, 53.
Insect Blight, 413.
Knight, his mode of raising new varieties, 701; his theory on the decay of varieties, 701.
Knots Disease, fatal to plum, 356.
Layers, propagating by, 28.
Laying in by the heels, 47.
Lemons and Limes, 604.
Lime, a cure for peach-borer, 597.
Loams, best adapted for plantations, 48.
Longevity of Peach Trees, 595 (note).
Longworth, Mr. N., his zeal in grape culture, 331.
Madeira Nut, 648.
Manure for fruit trees, 45.
Melon, its history and culture, 686; insects attacking, 686; Persian, culture of, 687; varieties, 687.

Mildew in grapes, 332.
Mice, to prevent girdling trees, 710.
Moths, how to destroy, 54.
Mulching, 45.
Mulberry, habits and varieties, 347; the ever-bearing, 347
Nectarine, its history and culture, 644; curculio an enemy to, 644; varieties, 645.
Noyes, Darling, remarks on the yellows in Peach, 599 (note).
Nuts, European Walnut, Hickory nut, Filbert, 348; Chestnut, 349; the Chinquapin, 349.
Olive, history and uses, 695; propagation and culture, 696; varieties, 697.
Orange, history and uses, 691; soil and culture, 692; insects on, 692: specific against, 693; varieties, 693.
Peach, its history, 588; uses, 590; propagation, 591; soil and situation, 591; pruning, 593; training, 594; insects and diseases, 595; yellows in, 597; symptoms, 597: cause, 599; remedy for, 603; varieties, 604; classification of freestones and clingstones, 606; curious or ornamental varieties, 642; selection of choice sorts, 643; hardy sorts, 643; selection for the South, 644.
Peach Borer, 596; remedy for, 596.
Pear, history of, 407; its nativity, 408; extraordinary specimen of tree, 408; uses of, 408; gathering and keeping, 409; propagating, 410; soil, situation, and culture, 411; diseases of, 412; insect blight, etc., 413; selection to ripen in succession, 585; for cold climates, 585; for dwarfs or quince stocks, 585; foreign varieties, 586.
Persian Melon, culture of, 687.
Planting deep, bad effects of, 45.
Plum, history and use, 350; propagation and culture, 352; soil, 353; insects and diseases, 353; curculio or plum-weevil, 353; how to destroy, 354; varieties classed, 358; ornamental varieties, 406; selection of choice sorts, 406; varieties, 419.
Plum Weevil, 353.
Pomegranate, history and uses, 698; propagation and culture, 699; varieties, 699.
Position of fruit trees, 48.
Potash Wash for fruit trees, 710.
Preparing soil for fruit-trees, 43.
Propagation of Varieties, 12; by cuttings, 26; by layers and suckers, 28.
Prunes, to make, 351.
Pruning, to promote growth, 29; to induce fruitfulness, 32; annual, produces longevity in peach trees, 595 (note).
Quenouille training, 36.
Quince, its history and use, 651; propagation, culture, and varieties, 652; ornamental varieties, 654.
Quince Stocks to dwarf pears, 411.
Rabbits, to prevent girdling trees, 710.
Raspberry, its habits, uses, and culture, 665; varieties, 656.
Remedies for Blight, 417.
Renewal Training of Vines, 308.
Ringing and Disbarking, 34.
Rivers, Mr., on Root-pruning, 32.
Root-pruning, 33.
Salt, used to destroy insects, 53.
Saddle-grafting. 18.
Scale Insect on Orange, 692.
Scions, to select, 13.
Sea Air, effects of, on fruit trees, 709.
Seedlings, to raise, 5.
Shortening-in, mode of pruning the peach, 33.
Shellac, for wounds in trees, 32.
Slug-worm, 419.
Smells will drive away winged insects, 53.
Soil, best for fruit-trees, 43.

Soft-Soap, for stems of trees, 710
Species of Fruit Trees, 3.
Spurring-in, training the vine, 302.
Stopping the bearing shoots of the vine, 303.
Strawberry, history and uses, 664; propagation and soil, 665; modes of culture, 666; fertile and barren plants, 667; varieties, 669; sorts superseded, 679; Alpine and wood strawberries, 683; hautbois strawberries, 684; Chili strawberries, 685; green strawberries, 685.
Suckers, propagating by, 29.
Stocks, for grafting, 13; their influence on graft, 24.
Taking up Trees, 42.
Thorn, the, good stocks for pear trees, 410.
Tobacco-Water, remedy for insects, 54.
Toads destroy insects, 56.
Training, remarks on, 35; its objects, 36; conical standards and quenouille training, 36; fan training, 39; horizontal training, 40.
Transplanting, remarks on, 41; best season for, 41; preparing the places, 43; proper size for, 46; laying in by the heels, 47.
Trellis, use of, for the vine, 303.
Trenching, to improve soil, 50.
Vallies, objectionable for fruit trees, 51.
van Mons' Theory, 5.
Varieties, to produce new, 3; tendency to change, 4; influence of grafting on, 5; Van Mons' method of raising new, 5; cross-breeding, 9; propagation of, 12; remarks on the duration of, 701; Knight's theory on the decay of, 702; effects of climate on, 703; to restore decayed, 708.
Vine, grafting the, 18; culture of, 302.
Vinery, cheap mode of building, 304; for fire-heat, 307; diary of culture, 310.
Vineyard Culture, 331.
Water Melon, its uses, culture, and varieties, 689.
Wash for stems of fruit trees, 710.
Weevil, attacks plums, 353.
Whale-oil Soap, to destroy insects, 54.
Wild Plum, varieties indigenous, 350.
Woolly Aphis, the, 66.
Wounds made in pruning, composition for, 32.
Yellows, disease of, in Peach, 597; symptoms, 597; cause, 599; remedy, 608.

LIBRARY OF CONGRESS
00009171228